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AUTHOR Gotts, Edward E.
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ABSTRACT

This report describes the 1977 activities of the Marketable Preschool Education (MPE) Program conducted by the Appalachia Educational Laboratory. The report describes both completed activities and those in progress at the end of 1977. The following activities are described: (1) the final preparation of the Home Visitor Training Package for publication and distribution; (2) the evaluation of the Day Care and Home Learning Activities Files and the Classroom Learning Activities Files with selected target populations; (3) the monitoring of the use of the Aids to Early Learning with special children; and (4) the refinement of the appraisal instrument used to determine the appropriate placement of individual children in the program. Appendices to the report include a summative evaluation of the Aids to Early Learning Program conducted from 1976 to 1977 and a sample newsletter used to disseminate ideas for the use of the Aids to Early Learning Program with special children. The report also includes various forms used in the MPE program. (BD)

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FINAL REPORT FY 77

Marketable Preschool Education (MPE) Program: Impact Evaluation, Final Editing, and Product Dissemination Activities

Edward E. Gotts
with
MPE Staff

Division of Early Childhood and Parenting
Appalachia Educational Laboratory
P. O. Box 1348
Charleston, West Virginia 25325

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Contents

Foreword and Acknowledgements iii

Overview 1

Assist Publisher of Home Visitor Training Package 5

Field Testing and Editing AEL Products 10

Field Testing the Files 11

Editing Aids to Early Learning 19

Day Care and Home Learning Activities Files 19

Classroom Learning Activities Files 21

Copyright and Placement Initiation Activities 27

Update Aids to Early Learning Product Descriptions 28

Guidelines for Files' Usage with Exceptional Children 29

Refine Appraisal Instruments for Placing Children 32

Appendix A: A Summative Evaluation of the Aids to Early Learning 1976-1977

Appendix B: SPECIAL ED-its

Foreword and Acknowledgements

This final report discusses completion of several aspects and progress on all other aspects of the ongoing Marketable Preschool Education (MPE) Program effort, and further documents completion of all FY 77 scope of work activities. The MPE Program work has been supported by the National Institute of Education (NIE), DHEW, since 1973, to bring to fruition and to the public, in widely-usable product forms, the promise of the successful Home-Oriented Preschool Education (HOPE) experiment (1968-1971) and its experimental demonstrations/replications (1971-1973) in five Appalachian states.

The translation of the HOPE educational innovation into finalized, exportable products which would meet with public acceptance has provided a major challenge requiring long-term commitment both by the Appalachia Educational Laboratory (AEL), a regional education research and development institution, and from the NIE as the financial and programmatic supporter of the MPE Program. Although the years 1971 through 1977 were often difficult ones financially for the NIE and for the regional R & D Labs such as AEL, it is noteworthy that the MPE work proceeded without interruption during this period. This is a tribute to the commitment, resourcefulness, and frequently the sheer tenacity of those most closely involved with MPE since its inception.

As results at this writing, one product, the Home Visitor's Kit, a three-volume resource that prepares and supports the home-based education model, has been published commercially (1977) by the Human Sciences Press, New York, and has been widely disseminated. Further, the Classroom Learning Activities Files, the Day Care and Home Learning Activities Files, and the "Parent Discussion Guides" have been evaluated, and, through the vehicle of a Request for Proposals (RFP) issued by AEL in collaboration with NIE, are currently being considered for commercial publication by several national publishers who received the RFP. The "AEL Visits Mister Rogers-Parents' Guide" materials and the Appraisal of Individual Development (AID) Scales have been designed, tested, and scheduled for completion in FY 78 and FY 79, without requiring additional direct NIE support.

Furthermore, AEL is preparing for release in 1978 an eight-volume curriculum research and development series, "The Early Childhood Curriculum: An Empirically-Based Curriculum," which will systematically present, in a generalized and replicable manner, the process by which AEL has translated the HOPE experiments into the above named, interrelated set of educational products, which collectively are designated Aids to Early Learning. Rather than documenting only the curriculum development process, the series conceptualizes the use of empirical evidence in curriculum design and preparation. Simultaneously, it will illustrate principles of empirically-based curriculum development via references to AEL's creation of the Aids to Early Learning, including the various empirical studies which guided

that work. The series, by reflecting upon the foregoing principles, will suggest for curriculum developers both generalized questions which they should consider in their efforts, and strategies for gaining answers to these questions. This series, incidentally, is being prepared through the professional effort of AEL staff, without specific funding for these activities.

The NIE's support of the MPE work by AEL, when considered from the foregoing perspectives, will eventuate in disseminated products and in generalized knowledge and procedures.

Dr. Jerome Lord, the current MPE Program Officer from NIE's Finance and Productivity Group, has contributed to the successful completion of the Program's work by his timely encouragement, counsel, and management. Dr. Michael O'Malley, as the first MPE Program Officer at NIE, formerly helped steer AEL into this systematic product-development cycle. Mr. Jerrold Sandler, who served as Program Officer between O'Malley and Lord, participated in the various products' design and preliminary development phases. AEL's Division of Early Childhood and Parenting and its regional supporters in the field gratefully acknowledge the support of these three persons, as well as the financial support of the NIE.

The staff members who were most extensively involved in the FY 77 work were: Assisting publisher of Home Visitor's Kit--Gotts and Barnhill; dissemination of Home Visitor's Kit--Barnhill and Gotts; field testing of AEL products--Lawhon, Spriggs, Sattes, Mays, and Gotts; editing AEL products--Spriggs and Gotts; continued development of "AEL Visits Mister Rogers"--Spriggs and Guthrie; initiating copyright and placement activities--Gotts; preparing updated product descriptions--MPE staff; developing guidelines for using AEL products with exceptional children--Sattes; and refinement of child appraisal measures--Sattes, Gotts, and Lawhon.

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FINAL REPORT

Marketable Preschool Education Program

Overview

The program work completed during FY 77 under NIE sponsorship was designed to bring to completion prior activities which had commenced in the Home-Oriented Preschool Education (HOPE) experiment (Cf. the Foreword to this report). Specifically, these more remote outcomes of the HOPE experiments have resulted in the development of (1) methods of training home visitors, (2) early childhood curriculum materials to be used by classroom teachers, day care workers, and home visitors, and parent discussion groups, and (3) modifications to make the foregoing materials for teachers, day care workers, and home visitors more usable with young handicapped children. Finally, a fourth activity involved (4) developing and refining appraisal instruments to be used in placing young children in appropriate learning experiences as would be called for when using the curriculum materials referred to in 2 above.

Specific scope of work statements were developed corresponding to these four identified general work areas. Each scope of work statement indicates the types of activities undertaken in FY 77. These are as follows:

1) Assist selected publisher for Home Visitor Training Package (HVTP), as necessary, to complete final preparations of the Package for publication and distribution. This includes consultation with the publisher's staff regarding the possible effects of particular changes upon the Package's usability and effectiveness; involvement in preliminary dissemination activities to key educational personnel at national, regional, and state levels (e.g., responsible Title I & III officials, Head Start training directors, applicable personnel in DHEW regional offices); give demonstrations of and technical

presentations regarding the HVTP on a selective basis to assure maximum awareness and dissemination; and develop orientation and familiarization activities to be used in introducing the Package to local programs. (AEL has previously developed familiarization activities. The purpose of the foregoing is to assure that the familiarization procedures might be carried out by persons not associated with the AEL staff.)

2) Conduct an impact evaluation of the Day Care and Home Learning Activities Files and the Classroom Learning Activities Files[1] with the target population to determine their effects on (a) user practices in field sites and (b) children's developmental progress. Attempts will be made to obtain a limited number of suitable sites for impact evaluation of the "Parent Discussion Guides."

   a) A sample of participating field sites will be visited to verify their methods and accuracy in record keeping. Familiarization, training, and consultation will be provided to participating programs, as necessary, to insure adequate program implementation. The impact studies will be conducted under field conditions, but requiring methods of record keeping which sufficiently describe program activities to define the experimental treatments occurring across sites. A mix of program types will be selected, based on our analyses in 1976 of user characteristics, to insure analyzable treatment variations that are hypothesized to be reflected in criterion outcomes. For example, the mix will include programs which give greater and lesser emphases to cognitive objectives, allowing analysis of differential outcomes as a function of curriculum emphasis. All program data will be collected and records kept by local programs with the MPE staff providing quality control and assuring uniformity. Analyses will all be completed by MPE staff using information provided by the programs. These circumstances constitute an impact evaluation under field conditions.

   b) Beginning with the final editing specifications for the Aids to Early Learning that were formatively evaluated in 1976, complete all editing and prepare camera ready copy in anticipation of placement and dissemination.

[1]The materials prepared under the Marketable Preschool Education Program, as a means of translating the earlier Home-Oriented Preschool Education (HOPE) program into a set of specific products, now include the Home Visitor Training Package, the Day Care and Home Learning Activities Files, the Classroom Learning Activities Files, the "Parent Discussion Guides," the Weekly Lesson Plans, and "AEL Visits Mister Rogers." Collectively, these materials are designated Aids to Early Learning (AEL).

c) Request copyright authorization and intiate placement activities for the two sets of Files and the "Parent Discussion Guides," in collaboration with staff of the National Institute of Education (NIE). This work may include issuing Requests for Proposals (RFP).

d) Prepare updated product descriptions of the foregoing Aids to Early Learning to reflect results of the formative evaluation and the products' current status relative to impact evaluation.

3) Monitor the use of Aids to Early Learning, particularly, with special populations of children (i.e., handicapped children and other children of elementary school age who receive these program experiences as a supplement to their other school activities). The emphasis of this monitoring will be to obtain accurate descriptions of how Aids to Early Learning are both used and adapted by teachers with special children. These descriptions will be incorporated as suggestions to users in a later revision of the manuals that accompany the Files.

4) Refine appraisal instrument used by programs to determine appropriate placement of children. This will be accomplished by obtaining from programs a sample of their complete protocols. These will be keypunched and subjected to item analysis leading to revision of the instructional instrument.

The scope of work activities just described were designed to result in the following deliverable products:

1) Home Visitor Training Package published and being disseminated.

2) Final report on impact evaluation of Day Care and Home Learning Activities Files, Classroom Learning Activities Files, and possibly "Parent Discussion Guides." Report will examine the materials' effects on (a) user practices and (b) children's developmental progress; and suggest future modifications of the Files (i.e., a subsequent edition) based on the impact evaluation.

3) Camera ready, final edited copy of Day Care and Home Learning Activities Files, including separate Instructional Manuals* for day care use and home use.

4) Camera ready, final edited copy of Classroom Learning Activities Files, including Classroom Instructional Manual.*

*All three Instructional Manuals will contain suggestions added on use of the Files with special children.

5) Camera ready, final copy of Parent Coordinator Guide.

6) Camera ready, final copy of Parent Guide.

7) Technical Manual including entire background of research and development of the two Files sets up through the impact evaluation. If impact evaluation is completed for the "Parent Discussion Guides" (products 5 and 6 above), these will be included in the Technical Manual; otherwise as a technical foreword to product 5.

8) (Possible, dependent on obtaining suitable copyright arrangements) Request for Proposals issued for each of these above products: 3, 4, and 5-6 jointly.

9) Refined appraisal instrument for determining appropriate instructional placement of children. Tentative name: Appraisal of Individual Development (AID).

Table 1 indicates the correspondence between the scope of work activities and the corresponding deliverable products.

Table 1

Correspondences Between Scope of Work Activities and Deliverable Products

Scope of Work Items	Deliverable Products
1	1
1-4 inclusive	2
2b, 2d & 3	3, 4, 5, 6 & 7
2c	8
4	9

The balance of this report details the FY 77 work activities, processes, and results, leading to the deliverable products. The report is organized according to the outline of the overall scope of work statement above. Further background information is contained in three quarterly reports which were submitted to NIE throughout the year during the performance of the work.

Assist Publisher of Home Visitor Training Package

Initial work on the placement of the Home Visitor Training Package was carried out during FY 76. During that period a Request for Proposals (RFP) was prepared by the Marketable Preschool Education (MPE) Program staff for distribution to prospective publishers of the Home Visitor Training Package. The RFP had been approved by the NIE Copyright Administrator and transmitted to prospective publishers by the end of FY 76.

Early in FY 77 final contacts were made with those publishers who had indicated an interest in bidding in response to AEL's Request for Proposals. Eventually, with the approval of the NIE Copyright Administrator, Human Sciences Press of New York City was declared the successful bidder to publish the Package under a five-year copyright authorization from NIE. Contract arrangements were completed and approved.

AEL's publication plan was linked to a concurrent dissemination plan. The dissemination plan was calculated to create maximum initial visibility for the Home Visitor Training Package among key national, state, and regional decision-makers who were responsible for the preparation, supervision, and ongoing training of paraprofessionals who work in home settings. Table 2 includes a categorical listing of persons who were to be reached through the dissemination effort with complimentary sets of the print materials portions of the Package. (There are also non-print media portions of the Package which were not to be included in the complimentary dissemination.) Subsequently, AEL contacted the appropriate agencies and professional organizations to determine current names and addresses of the persons referred to categorically in Table 2. These actual persons comprised the mailing list for the dissemination activity.

Table 2

Dissemination Plan

Home Visitor Training Package

Projected Number of Copies	Projected Recipient
50	State Directors of Child Development
50	State Kindergarten-ECE Supervisors
140	State and Regional CCD and CDA Training Personnel
50	State Coordinators for Developmental Disabilities
9	National and Regional ECE and Parenting Professional Groups and ECS
2	Appalachian Regional Commission: Education
40	ECE Persons in Major Urban School Systems
10	DHEW (OE) Regional Personnel
50	Home Economics Department, Nursery School Directors-Land Grant Colleges
50	State Welfare Department Coordinators for Day Care/Training
50	State Health Department Nursing Coordinators for Paraprofessionals in Field Services
50	State Parent Advisory Committee Coordinators for Title I Federal Programs
50	State Affiliates of Day Care and Child Development Council of America
34	AEL Board Members (These have Regional Dissemination Responsibilities.)
40	AEL Director of Dissemination for Discretionary Regional Distribution
25	AEL Early Childhood Staff for Limited Distribution to Local Program Trainers
Total: 700	

After contractual agreements had been reached between AEL and the publisher, they held further joint discussions to determine what final revisions of format and packaging should be accomplished to insure that the Package's cost would be accessible to as many users as possible. These economies were effected without sacrificing product appeal. In general, however, the final edited text of the Package was used in the same photo-ready copy form in which AEL had prepared and subsequently delivered it to Human Sciences Press. Discussions between the two organizations resulted in a number of changes in format and packaging, but none in the content of the Home Visitor Training Package. These changes, which are described below, simplified the Package and thereby reduced the possible need for separate familiarization/orientation activities.

The Home Visitor Trainer's Notebook and the Home Visitor's Notebook remained unchanged, with these remaining two variant forms of a single volume. That is, all of the pages within the Home Visitor's Notebook were included in the Home Visitor Trainer's Notebook, whereas the latter document also included additional pages that were essential only to trainers. These two documents used a double pagination system which permitted printing, in a single run, the majority of the pages for both documents, leaving only a small supplemental page run necessary to create the additional pages required in the Trainer's Notebook. A single change was made in this pair of documents: all pages were perfect bound and placed in a flexible cover, i.e., the loose-leaf format of the field test version was abandoned in favor of creating a Trainer's Notebook consolidated under a standard cover. The Home Visitor's Notebook is to be distributed as a standard, three-hole punched, loose-leaf volume. Accordingly, tabbed index dividers were printed for insertion between the Notebook's sections.

No format or packaging changes were made in the Parent's Notebook except that its pages were printed on both sides to reduce bulk. The Notebook is loose-leaf, three-hole punched, and ready for insertion in a standard notebook cover.

A major repackaging job was accomplished with the eight booklets which formerly appeared separately bound under the titles: the Educational BOM, Testing Others to Test Ourselves, Why Parents Are Good Teachers, Introduction to Teaching and Learning, Building Better Listening Skills, Developing Questioning Skills, The Art of Respect, and Keeping Your Child Healthy. Considerable economy was effected by perfect binding these booklets together as a single volume with a flexible cover. To accomplish the foregoing inclusion of all booklets within a single binding, it was necessary to adjust the page sizes to a common overall size. This was easily accomplished by photo-reduction, when necessary, for all of the booklets except the Educational BOM; the BOM was redrawn to a size compatible with this approach. This composite volume was titled Home Visitor's Resource Materials, while the original booklet titles were retained as section names and were placed as running heads on the right-hand pages of the respective sections.

The final package of print materials consists, therefore, of the three volume set: Home Visitor's Notebook (Home Visitor Trainer's Notebook variant), Parent's Notebook, and Home Visitor's Resource Materials. The series collectively is called the Home Visitor's Kit: Training and Practitioner Materials for Paraprofessionals in Family Settings. Sets of the three volumes were wrapped in a tough transparent material for shipment to the dissemination recipients.

Human Sciences Press completed publication of the Home Visitor's Kit during FY 77 and shipped the dissemination copies to AEL for actual distribution. Earlier, Human Sciences Press had contacted the prospective disseminees by letter, using address labels supplied by AEL. The letter apprised the disseminees that they had been selected as a part of an overall dissemination plan to receive a complimentary copy of the set. They were asked to reply if someone else rather than themselves should be designated to receive the materials. They were also asked to reply if they knew of other persons within their state or office who should be informed of the materials. These responses came directly to AEL and resulted in changes in the actual dissemination list. In October 1977, the actual dissemination shipment was completed to approximately 680 persons as a part of the FY 77 work. In several states a single person was performing the duties of two or sometimes three of the role persons identified in the categorical listing (Table 2). It eventuated, however, that a larger than planned number of dissemination copies was required to reach the actual persons for some categorical listings. These two kinds of changes in the required numbers of copies tended to cancel one another. The result was a virtually complete dissemination of all copies which had been bulk purchased for this purpose.

In addition to the print materials, the AEL-developed Home Visitor Training Package also included a variety of non-print media which are used during the home visitor training experience. Human Sciences Press had an option to arrange for the distribution of these non-print media. In April 1977, Human Sciences Press exercised its option to not reproduce and distribute the non-print media but rather to assist the distributor by

making specific mention of these materials in the Home Visitor Trainer's Notebook, i.e., that volume refers the reader to AEL for further information on media.

Because Human Sciences Press had exercised its option, and in view of the fact that the non-print media had been separately identified and offered during the RFP bidding process, the Copyright Administrator granted AEL permission to continue seeking through informal channels to find a distributor/producer for these materials. The placement of the non-print media which accompany the Kit was still in progress at the end of FY 77.

To support the initial demand, which would be generated by the dissemination activity, for samples of the non-print media, AEL produced a small supply of filmstrip-cassette copies of selected media. Specifically, AEL reproduced a small supply of those filmstrip-cassette materials which it had designed and tested for use during the training experience. AEL did not, however, reproduce copies of any of those non-print materials which prospective users could obtain from other sources. Instead, page xvii of the Home Visitor Trainer's Notebook provides the names and addresses of suppliers from whom all non-AEL produced media can be obtained.

Field Testing and Editing AEL Products

The second major activity of the program year was an evaluation of the Day Care and Home Learning Activities Files and the Classroom Learning Activities Files under typical field conditions. The scope of work called for attempting to find suitable impact evaluation sites for the "Parent Discussion Guides." Suitable evaluation arrangements were made for both sets of Files; however, because of the great difficulty of designing a

suitable impact evaluation for the "Parent Discussion Guides," this optional activity could not be accomplished. Further attempts will be made in FY 78 to arrange, at Laboratory expense, for an impact evaluation of the "Parent Discussion Guides." The following section briefly describes the completed impact evaluation activities, without attempting to be comprehensive. A more complete report of the impact evaluation accompanies this final report as Appendix A with its own title page. This method of including the more complete evaluation report was intended to preserve it as a separate document which might be identifiably indexed in ERIC for persons who wish to obtain the Files' evaluation only.

Field Testing the Files

Background. Formative evaluation of the two Learning Activities Files sets had been conducted during FY 76. Errata sheets were prepared to accompany each Files set, showing essential changes, which users would need to observe, based on the formative evaluation. Providing errata sheets along with the impact evaluation copies of the Files sets made it possible for AEL to use the same printed edition in both the formative and impact testing activities. The impact evaluation sought to determine whether the Files had effects upon (a) user practices in field sites and (b) children's developmental progress. Effects upon user practices were determined from a variety of informal data collected by AEL during the many contacts which they had with impact sites. In addition, AEL used an interview and a short evaluation form to learn more about user practices. The analysis of these data appears in Appendix A. An AEL revision of the Alpern/Boll Developmental Profile was used by participating programs to collect information on the children's developmental progress. In addition, the Profile was used by

programs as an instructional device to determine the children's developmental levels, so that they could be assigned appropriate learning activities based on their developmental ages in each of five areas: physical (motor), self-help, social, academic, and communication. An account of AEL's revision of the Developmental Profile and its usage in the field test is further discussed in Appendix A.

All data were gathered or provided by local program personnel rather than by AEL staff, under program resource and operating conditions which were generally typical of their respective settings. It is, therefore, appropriate to refer to this impact evaluation as a field test as well. This is important because the generalizability of an impact evaluation to the experience of future adoptions of any set of materials depends upon the extent to which the conditions of the impact evaluation are comparable to those ordinarily encountered in the field. Generalizability in the present instance appears to be one of the major strengths of this evaluation. It is, of course, difficult under such field conditions to collect the same kinds and quality of data which one might wish, but the loss of experimental control seems to have been offset by both the "naturalness" of the field conditions and the immensely reduced cost of the test. Perhaps one of the astonishing features of the study was the willingness of program personnel, who were under no constraints to do so, to accumulate and supply a considerable mass of data which both described what they did in their contacts with children and the developmental status of the children themselves.

Field sites. Thirty-three programs participated in the impact evaluation of the two AEL Files sets. Based on evaluation criteria for site selection, 13 programs were designated as primary sites and 20 programs

as secondary sites. (For site selection criteria, see Appendix A.) The 13 primary program sites were located in Alabama, Michigan, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. Of these sites, 12 eventually were able to supply all necessary data on (1) children's progress (Developmental Profile pretest and posttest), (2) implementation of the program (counts and tabulations of the number of times that the individual activity cards were selected and used), and (3) program characteristics (including such information as teacher experience and educational background, intended curriculum emphasis, degree of reliance on the AEL Files contra other resources, developmental areas of expected greatest gain, etc.). Complete data were available for 67 individual users and approximately 800 children from the 12 primary sites in eight states. The following discussion is based upon these criterion-selected users only.

Impact on users. The impact upon the users themselves of the AEL Files sets was inferred from a variety of formally and informally collected data. These data led us to believe that Files' users (1) become more oriented to the developmental needs of individual children, (2) either individualize or provide experiences through small groups which have the effect of individualizing experiences to fit the needs of individual children, (3) successfully incorporate the AEL Files into a wide variety of program contexts including Head Starts/Home Starts, kindergartens, day care centers, home-visitor-oriented programs, and other preschool program variations, (4) understand and use the Developmental Profile as an evaluation device in conjunction with their instruction and perhaps find the process of program evaluation less alien to their teaching activities (i.e., than other forms of evaluation would be), because the relationship between the evaluation

and the learning is made patently clear to them, (5) provide for the learning needs of mildly handicapped children with the Files simply by using the suggested developmental adaptations while mainstreaming these children in their regular program, and (6) wish to continue using the Files beyond the end of the field test because they believe that the Files serve as important resources to their work with children.

Child impact results. The impact test of the AEL Files generally suggested that the children made considerably greater than expected progress in the social, academic, and communication areas of development, while making greater than expected progress in the physical and self-help areas. Although the conclusions about children's developmental progress were based on highly significant differences for each of the five scales, it was necessary to rule out an alternative interpretation. That is, one might alternatively consider that teachers, day care workers, and home visitors, who expected their children to experience relatively greater progress in certain areas, may have been influenced by these expectancies when they attempted to appraise the children's actual progress as indexed by the Developmental Profile, a teacher supplied measure.

Analyses of teacher expectancies. Several analytic approaches were designed, and the correspondingly required data collected, to permit direct examination of the alternative interpretation of the results. Specifically, for example, data were collected on the actual extent (i.e., as determined from classroom records of the usage counts for the individual activity cards of the Files) to which teachers used activities which AEL could infer tended to promote development in each of the five tested developmental areas. Teachers were median-divided on the basis of these counts into high and low

user groups, for each of the five developmental areas. The foregoing data were predicted, in contrast to other bases of user classification (below), to demonstrate a clear relationship to the tested impact results for children, provided that the Developmental Profile was unbiased by the teachers' expectancies. The opposite results would be interpreted as evidence favoring the hypothesis that teacher expectancy bias influenced completion of the Developmental Profile.

To permit contrasting analyses, teachers indicated separately their global (1) estimates of "areas of development emphasized"; (2) expectations of areas in which "children will have (the) greatest amount of growth"; (3) estimates of relative overall "curriculum emphasis" for each of the five areas; and (4) judgments of the extent (percentages) that the AEL Files, versus other curriculum materials available to them, were used to implement the individual classroom curriculum. Users were subsequently divided into high and low "expectancy" groups by effecting median splits of the 67 users on each of the four preceding variable sets (and within the sets for each of the five developmental areas).

Analyses of variance were then performed on the Developmental Profile posttest scores, aggregated by classroom, based upon groups of teachers divided into high and low user categories on the basis of both (a) actual utilization (counts) and (b) the four expectancy variable sets. That is, the user classifications into high and low groups were conceptualized as independent variable classifications which would reveal by their respective results which were psuedo-classifications versus empirically effective classifications. This strategy then employed analysis of variance comparisons which were further compared as coordinated sets of F-tests and probability

levels for the corresponding elements of the respective variable sets and for each of the five Developmental Profile scales (i.e., physical, self-help, social, academic, and communication). Ultimately, this meant comparing, for example, the F-ratio and probability obtained on the physical scale of the Developmental Profile for classroom users divided into high and low groups on the basis of counts and the four expectancy variables as they pertained to the physical scale utilization or expectancy of results. Predicted scores (see Appendix A for their computation) were used as a covariate in each analysis of posttest scores. The predicted scores had the advantage over pretest scores of further correcting for the children's chronological ages and actual months in program, with the use of a single covariate.

None of the foregoing comparisons will be presented here because they all fail to reach statistical significance. This was so despite the fact that Developmental Profile means, when analyzed in terms of users classified by the direct utilization (counts) variables, most consistently showed that children in high utilization groups experienced greater amounts of development than did children in lower utilization groups, across the five developmental areas tested. The same data further suggested that teachers, whose children were initially lower functioning within a particular developmental area, tended to emphasize that area relatively more than did teachers whose children were initially higher functioning on the same scale. The failure of these predictably ordered results to attain statistical significance, particularly in view of the fact that the foregoing analyses were all performed on aggregated means for classroom groups, was puzzling.

To probe further these puzzling results, an examination was made of the aggregated records for each classroom of the five Profile scales to learn whether the failure of the preceding effects to attain statistical significance could be attributed primarily to large amounts of within-group variance for the high and low utilization groups. This inspection revealed extremely large within-group variance, such that among low utilization classrooms, for example, some groups of children made enormous gains; others made slight gains; and others showed even poorer performance than was predicted for them. Similar patterns were found among the individual high utilization rooms. Furthermore, these varied patterns were found for each of the five subscales, although they were more prominent for the social, academic, and communication scales. It was now apparent why the preceding analyses of variance had failed to confirm or disconfirm clearly the possibility of teacher expectancy bias effects. The results had similarly failed to document the relationship between extent of actual utilization and outcomes for the children, and for the same reason.

The inspection of aggregated classroom data (means) had thus clarified that the highly significant effects of overall Files usage upon the children resulted from highly varied combinations of effects patterns, with the overall tendency being present for "high developmental gain" classrooms to outnumber "moderate gains" and "failure to gain" classrooms combined. Whereas such an array of data was sensitive to overall treatment effects, the same array could not be used successfully for a causal analysis of high versus low utilization groups. Therefore, no definitive statements can be made either about the presence/absence of teacher expentancy bias or about whether high usage was associated with greater developmental gains than low usage for the respective developmental categories. What will be

apparent, moreover, is that for "high gain" classrooms to offset "moderate gain" plus "failure to gain" classrooms, thereby producing such unusually large, above-predicted gains (see Appendix A), the "high gains" had to be exceptionally high. They were. At times the mean gains for some classrooms on the individual Developmental Profile scales were so large as to seem not believable. In a small number of classrooms, failures to achieve predicted progress were equally unbelievable. These results suggest some form of measurement irregularity/error occurring at the individual classroom level--which results are not, however, directly interpretable across the classroom units in terms of teacher expectancy bias effects, as were reasonably measured in this study.

Hence, while there was no compelling evidence to suggest a practitioners' expectancy bias in the completion of the Profile, AEL's attempts to rule out this possibility were also inconclusive. AEL desires to conduct additional investigations of the consistencies/inconsistencies with which classroom practitioners completed the Profile across occasions, in order to throw more light on this issue. Program Officer approval will be sought from NIE to perform this work during the grant period of FY 78. In the meanwhile, the substantial developmental progress reflected by the children, who participated in activities drawn from the AEL Files, can only be interpreted as suggesting that teachers, day care workers, and home visitors, on the average, perceive their children as experiencing marked progress. Additional analyses in FY 78 may permit more definitive conclusions. Another anticipated outcome may be a contribution to the methodology of studying developmental gains on teacher-completed instruments.

Editing Aids To Early Learning

Editing was completed during FY 77 on the following Aids to Early Learning products: Day Care and Home Learning Activities Files, including their Instructional Manuals; Classroom Learning Activities Files, including its Instructional Manual; and the "Parent Discussion Guides" (Parent Guide and Parent Coordinator Guide). All editing was completed based on suggestions and recommendations from the formative evaluation and other sources. In addition, further editing was performed on the "AEL Visits Mister Rogers-Parents' Guides," although these were not to have been finalized during FY 77, nor were they. Further work compiled on another Aids to Early Learning product, the Appraisal of Individual Development Scales, is discussed in a later section of this report.

The two Files sets' Instructional Manuals were further revised to reflect results of an analysis of how the Files might be used to serve the needs of special populations of children (i.e., handicapped children and others of elementary school age who receive these program experiences as a complement to their regular school activities). The procedures, by which these recommendations were compiled for exceptional children, appear in a later section of this report. A Technical Manual was also prepared to accompany the Aids to Early Learning products.

Day Care and Home Learning Activities Files

Editing the Day Care and Home Learning Activities Files involved considering formative evaluation comments which had been systematically compiled and transcribed on an activity-by-activity basis from well over 100 users' reactions provided during the Spring 1976 formative evaluation field test. (See FY 76 Final Report on this.) A separate log had been

compiled for each activity card and headed with its identifying number. The log contained all user comments which had been made with specific reference to that activity. These remarks included recommendations for change of activities which were judged to be defective or difficult to use because of (1) age-inappropriateness; (2) difficulty of obtaining the required materials; (3) activities did not fit into the curriculum emphasis of a program, the background of the children served; or for other reasons which users might identify. Other remarks were provided by users regarding their successful experiences in using the activities. In yet other instances, users made new recommendations for the use of particular activities, based on variations which they had tried successfully. Taken as a whole, these user remarks provided the MPE staff considerable specific guidance for the final editing of the activities. During FY 76, an editor, who was then on the MPE staff, prepared recommendations for final editing, which further took into account minor stylistic variations among the activity cards themselves, so that the final set would display a uniformity of both format and writing style. Further comments had been retained, from the design and initial development period as well, from consultants who reviewed the entire Files set. Additional comments were obtained during FY 77 from a small sample of users who had become highly experienced and proficient in using the Files. All of this information was taken into account for each activity. The intent of these processes was to reflect accurately in the final set the concerns and constructive recommendations of users under actual field conditions in a variety of early childhood program settings, and to produce a final edition of sufficiently uniform quality that it could be used as photo-ready copy if its selected publisher were to choose to do so. The

process was further intended to create a relatively permanent record of the various steps and inputs which influenced the final form of each individual activity, i.e., a complete and reviewable account of the editing process was created thereby. Field test evaluation of preliminary artwork used on the dividers and worksheets of the two Files sets suggested that the initial inexpensive artwork was ineffective and had a negative impact on some users. Specially designed artwork was, therefore, commissioned for both Files sets, permitting the artwork to be placed on the corresponding numbered divider cards of the two sets. Reactions to the new artwork have been highly positive. The new artwork further more clearly conveys the concepts underlying the 59 child competencies, thus aiding new users to grasp more easily what each Files section is about.

Classroom Learning Activities Files

The editing of the Classroom Learning Activities Files progressed along lines parallel to those for the Day Care and Home Learning Activities Files. Parallel data were available from all of the sources that were identified above for the other Files set. During the formative evaluation, substantially more than 100 teachers reviewed and made recommendations on the individual activities, while they were in the process of using them with the children in their own respective program settings. Six highly experienced users further reviewed the activities reflectively during Summer, 1977 after their programs had ended for the year, seeking by this latter review to identify possible redundancies or weaknesses among the individual activities as sets so that the total number of activities could be reduced if necessary. Guidelines for using the Classroom Files with exceptional children were included in the same manner as for the Day Care

and Home Files. Final editing of this Files set was completed using all available data sources for each activity. Any possible copyright infringement issues were cleared up or rectified during this editing. The final copy achieves a uniformity of format and style, such that the final draft could serve as photo-ready copy for use by the publisher if desired. The Instructional Manual for this Files set was edited and given a final outside review to insure uniformity of style between the original materials and those which had been incorporated relative to exceptional children. Especially prepared artwork was incorporated into the Classroom Files in keeping with recommendations from the field test.

"Parent Discussion Guides." The "Parent Discussion Guides" were well received during the formative evaluation in FY 76. They appeared, nevertheless, from outside review to be thin in some respects in content and process orientation to serve more than as initial resources to parent discussion groups. The two volumes comprising the "Parent Discussion Guides," Parent Guide and Parent Coordinator Guide, were, therefore, rewritten and edited to provide further depth which would permit the Guides to serve as continuing resources during the later stages of group development and interaction. Final photo-ready copy was completed in preparation for product placement with a publisher.

"AEL Visits Mister Rogers." In late 1975 AEL's Division of Early Childhood and Parenting reached an agreement with Family Communications of Pittsburgh, producer/distributor through PBS of the Mister Rogers' Neighborhood series, regarding use by AEL of the television series as a part of their curriculum. AEL was first to view each broadcast and analyze it in terms of its (1) thematic content, and (2) relationship to the 59 competencies

used in the AEL curriculum. The television broadcast was to be used in conjunction with the printed materials as one component of an overall instructional strategy that also relied upon home visitation and classroom group experiences for children. Early childhood programs participating in the Aids to Early Learning field test activities could then be encouraged to use the Mister Rogers' Neighborhood program and printed support materials. During FY 76, 21 weekly guides, covering 105 broadcasts, were prepared. These guides were titled "AEL Visits Mister Rogers-Parents' Guide." These were disseminated in advance of broadcasts and used by parents whose children attended local programs which were participating in the field test of the Aids to Early Learning. Each four-page field test publication consisted of a general message to parents, a synopsis of each day's programs for the week, and correlated learning activities for the parent to arrange and carry out in the home.

Unlike the three completed products described above in this section, "AEL Visits Mister Rogers" was still under development during FY 77. In FY 77, work included not only development activities but research activities relating to future prospects for dissemination and utilization of the materials. Based on extensive discussion during early FY 77 between both key regional decision-makers and program personnel from field test sites which had used the materials, AEL was able to conclude that the development of the materials should be continued but that the exact method of whereby they would be distributed should be further investigated. With Program and Contracts Officers' approval from NIE, AEL modified the timelines for the preparation of the materials to permit further exploration of the complex dissemination issue. It was necessary concurrently to hire a combination

writer-video program analyst on a part-time basis to view the remaining cassettes and assist with writing the synopses.

In April, 1977 Dr. James Laffey, reading specialist at Madison College, Virginia, was engaged to analyze a sample of the "AEL Visits Mister Rogers" materials for readability level and interest, as related to the intended audience. He applied two readability formulas to the written material, used a "common sense" criterion, and examined the material while listening to and viewing the accompanying programs. Dr. Laffey determined that the readability of the printed materials ranges from the fourth through seventh grade levels. He found further that the materials relate well to the television programs, are well organized, and have attractive print, size, and page layouts.

During the second quarter of FY 77, MPE staff performed an extensive survey of possible outlets for the delivery of such a weekly publication. These contacts included educational television station managers, publishers of educational materials, and persons familiar with procedures for syndicating printed materials, i.e., through serial publications. Among the groups contacted were the individual members of the Laboratory's Early Childhood/ Parenting Task Force and through them relevant state level ETV personnel, the education component of the Appalachian Regional Commission, the Association for Instructional Television, the National Congress of Parents and Teachers, and the Parents as Resources group. The advice from all members of these groups, who reviewed the prospect of distribution for these materials was that there exists no established delivery system which is capable of disseminating this type produce to the target population. Therefore, MPE staff decided to seek a change in the scope

of work for these materials, i.e., to discontinue the plans for immediate production of the materials and instead to undertake this on a more extended timeline. This change received Program Officer and Contracts Officer approval. Fiscal year 1977 funds were in consequence expended only for the above-mentioned review processes, for actual viewing and preparation of competency-coded and thematic information regarding the remaining programs of the series, and the writing and review by Family Communications of all resulting program synopses. All activities, such as linking home learning activities to particular synopses or typesetting and printing, were delayed pending a final determination of the best disposition method(s) for this product.

The accomplishments of the year may be summarized as follows: Broadcasts have now been viewed, coded, and summarized, and synopses have been prepared to accompany all 92 weeks of the Mister Rogers' Neighborhood series. Each synopsis has been critiqued by a member of the Family Communications staff, Ms. Barbara Davis, for accuracy of content and philosophical orientation to the original broadcast materials. The progress and accomplishments of FY 77 and the issue of determining an effective product delivery method were discussed at a joint meeting involving Fred Rogers, Barry Head, Basil Cox, and Barbara Davis, all of Family Communications and Edward Gotts and Alice Spriggs of AEL on September 23, 1977, in Pittsburgh. These participants concurred that the dissemination of printed support materials to accompany Mister Rogers' Neighborhood broadcasts in the future should be packaged and distributed by means other than weekly publications. The consensus of this conference, based on a consideration of the inputs of the many experienced persons and groups previously cited, was that these two possibilities should continue

to be explored for dissemination: a single volume publication and/or newspaper syndication. In view of the new work being pursued by MPE during the FY 78 grant period, it appears that this work, which will require additional resources over an extended time, should be completed in parallel with, but not at the expense of, the research activities being undertaken in FY 78. The MPE staff member who has been most closely associated with the development of these materials has expressed an interest in pursuing the development of the product as an additional professional responsibility not assigned to NIE grant or contract activities, and AEL has agreed to support these activities from private funds to the extent that her work will require direct cash expenditures, e.g., for typing, consultation, editing services, and for miscellaneous expenses. The completed set of synopses is being delivered at this time to the National Institute of Education (NIE) to accompany the printed weekly experimental version of the product which AEL delivered to NIE in FY 76. AEL would welcome an opportunity to present a briefing to any interested persons at NIE regarding the interesting finding of a complete gap in existing dissemination mechanisms for distributing printed serial support materials to accompany educational programming on television; and to review the plans and prospects for bringing this product to a final completed form under the plan briefly mentioned above.

Appraisal of Individual Development Scales. The Appraisal of Individual Development Scales (AIDS) is another of the Aids to Early Learning products which was under development in FY 77. It is mentioned in this section only for completeness of reference and specification, but will be discussed later in this report. At the end of FY 77 an

experimental edition of this product had been submitted to a preliminary experimental analysis. This test has demonstrated that the work is worth continuing, and enough is known at present about the AIDS battery to justify experimental use during FY 78 of the next edition of the Scales.

Technical Manual. A Technical Manual was prepared to document how the Aids to Early Learning were designed, developed, and tested. This Manual contains technical information that will be of value to prospective adopters and to users who require either (a) information on how the entire set of Aids to Early Learning materials is organized and fits together, and (b) a more in-depth perspective on each product's design, creation, and testing than is afforded within the various products themselves or their accompanying user manuals.

Copyright and Placement Initiation Activities

Using new guidelines for initiating Request for Proposals (RFP), which were prepared by the NIE Copyright Administrator, AEL prepared a sample cover letter and Request for Proposals for the commercial publication of the Classroom Learning Activities Files, the Day Care and Home Learning Activities Files, and the "Parent Discussion Guides." These were reviewed by NIE, modified, and approved for issuance. They were mailed to 53 prospective publishers on August 10, 1977. Because the list of publishers which was prepared by NIE was undergoing revision at the time, AEL compiled its own list of apparently qualified publishers in advance of mailing the RFP's. The RFP's and sample materials, which went out at that time, were sent by first class mail. The postal service, however, apparently handled several pieces of this mailing by some priority lower than first class,

judging from reports by publishers' representatives that they did not receive the mailing in some instances for several weeks and even longer. An original deadline of October 10, 1977, had been set to provide those submitting proposals with 60 days from the mailing time. When the delay was discovered, the Copyright Administrator's consent was obtained to extend the closing date to December 1, 1977, for those RFP recipients who indicated, by the initial deadline, that it was their intent to provide some response. All prospective publishers who had received the original RFP were sent a letter on September 19, 1977, notifying them of this extension of date. Exceptions to this were that the second mailing was not made if AEL had already received notice from the post office that a publisher was no longer in business at the last known address, or if a publisher had already responded by indicating that these materials were outside their line of work or marketing capacity. This product placement work was still in progress at the end of FY 77 and was carried on as one of several ongoing activities during a 60-day no additional cost contract extension through November 30, 1977. It is anticipated that responses will have been received by December 1, 1977, and can be reviewed to determine the qualified, successful bidder(s) for commercial publication of these three separate products.

Update Aids to Early Learning Product Descriptions

Product descriptions of the foregoing Aids to Early Learning were updated to reflect results of the formative evaluation and of the products' current status, relative to impact evaluation. Further, the product descriptions discuss the publication, pending publication, or other means of distribution/availability for each of the Aids products.

Guidelines for Files' Usage with Exceptional Children

The Classroom Learning Activities Files were reported by the participants in the Spring, 1976 formative evaluation field test to be usable with handicapped children. Thirty-four of fifty-seven teachers who completed the evaluation questionnaire had at least one child with special educational needs. Twenty-three of the thirty-four teachers used the Files' activities as at least one-half of the curriculum for these children. Those who used them less than one-half of the time gave the following reasons:

- Activities too developmentally advanced (4 teachers),
- Lack of sufficient teacher preparation time (5 teachers), and
- Files not specific enough to performance objectives (1 teacher).

Similar evaluative data were collected for the Day Care and Home Learning Activities Files. Fifty-one teachers reported having at least one handicapped child in a home-based or center program. Thirty-four used the Files' activities with children having special needs "more than 3/4" or "over 1/2" of the time. The primary reasons given for not using the Files with this special population were as follows:

- The child was developmentally below two years of age.
- The teacher did not use the Files with any students, due to a lack of planning and implementation time.

Every activity from the Files was used at least once by teachers in the eleven programs serving handicapped children.

During the summative evaluation, 1976-77, AEL more closely monitored the use of the Files with children having special needs, in order to include

in each of the Instructional Manuals a section on "Modifications for Children with Special Needs." A letter of inquiry was sent to every program in the field test population. The form shown on page 31 was completed and returned to AEL.

A follow-up telephone call was made to each teacher of a handicapped child. Through a teacher interview, AEL obtained information about modifications of activities that users made. Many teachers responded by saying that no adaptations were necessary, if the child was at least developmentally three years old. In some instances it was evident that the teacher was not individualizing for the children; however, many teachers offered creative ideas and seemed pleased that their ideas were considered important. A publication, "SPECIAL ED-its" (see Appendix B), based on preliminary information from field test teachers, was sent to each of the Files' users. It was favorably received; consequently, the "Modifications" section of each Instructional Manual contains similar suggestions in greater detail.

The primary handicapping areas of concern, for making adaptations to the special needs of individual children, were identified as follows:

1) Developmental delays and language delays,
2) Physical and health-related handicaps,
3) Visual impairments,
4) Hearing impairments, and
5) Emotional or behavior disorders.

In addition to suggestions from the field, preschool curriculum consultants provided information on adaptations and alternate curricula for each of the areas of special concern. Three professionals in the field

NAME OF PROGRAM: _____

ADDRESS: _____

_____

CONTACT PERSON: _____

TELEPHONE NUMBER: _____

(Please correct the above information, if necessary.)

Approximate number of handicapped children in program by primary exceptionality:

_____ blind or visually impaired

_____ deaf or hard of hearing

_____ orthopedically impaired

_____ learning disabled (diagnosed)

_____ emotionally disturbed or behaviorally disordered

_____ trainable mentally retarded

_____ developmentally delayed (including culturally disadvantaged, mild to moderate language delay, educable mentally retarded)

Please indicate below any other area included in your program that is not listed above:

_____ _____

_____ _____

Please circle "Yes" or "No" for the following statements:

The teacher(s) of the above children:

are using the Classroom Files.	Yes	No
are using the Day Care and Home Files.	Yes	No
would be willing to be interviewed regarding the use of the Files with the exceptional child. If no, reason given: _____ _____	Yes	No
would like some consultation regarding the use of the Files with the exceptional child.	Yes	No

of early childhood special education from outside AEL critically reviewed the suggested modifications. Additionally, a state director of early education read the modifications from the perspective of regular preschool teachers and commented on readability and format as well as the usefulness of content. Each of the reviewers reacted favorably to the work and felt that the modifications were an appropriate and necessary supplement to the Files. The suggested modifications or adaptations of Files' usage were then final edited to include most of the reviewers' comments.

The orientation of this work in the beginning was primarily to teacher users. Therefore, further revision of these materials was necessary to accommodate the inclusion of adapted usage guidelines in the Instructional Manuals for the Day Care and Home Learning Activities Files. Changes were made for the Day Care Manual to simplify wording, where necessary, and to eliminate specific references to the Classroom Files' activities. Further editing was done by an outside editor consultant to emphasize a home visitor-parent orientation for inclusion in the Home Visitor Manual.

Refine Appraisal Instruments for Placing Children

AEL has worked with two child appraisal batteries throughout the process of developing the Aids to Early Learning. The first battery is a set of five developmental scales, collectively known as the Developmental Profile by Gerald Alpern and Thomas Boll. The Profile indicates the status of children's development in these five areas: physical (motor), self-help, social, academic, and communication. As a first approximation of a curriculum-specific instrument, the Profile appeared grossly to relate to the competency development orientation used in designing the two Files

sets. It was possible at an early stage of the project to indicate the approximate correspondences between each of the five scales of the Profile and corresponding competencies, such that the child's status on each of the five scales would provide reasonable guidance to a teacher, day care worker, or home visitor about the developmental age level of activities which might appropriately be tried with the child from the corresponding competency-related sections of the Files. These matches were reasonably adequate for better than two-thirds of the competencies and only roughly approximate for the remainder, indicating in a few instances only that a particular competency was probably most highly correlated with a given developmental area, even though it did not properly belong within that area. In the absence of a curriculum-specific instrument that had been tested, these identifiable correspondences permitted two kinds of activities to go forward: (1) teachers could use the Developmental Profile to make appropriate assignments of activities to children and (2) AEL could establish an approximate correspondence between the curriculum materials and the effects of the program experiences upon children by using the Developmental Profile in a pretest/posttest manner.

Because the Developmental Profile had previously been completed by interview methods primarily and was validated in this manner, AEL's intention to have the Profile completed directly by teachers, day care workers, and home visitors, who might call upon parents for information which they felt they lacked, required additional studies of the Profile used in this manner. These studies were carried out during the formative evaluation of the Files in Spring, 1976. Those items in each of the five scales which operated appropriately as age discriminators between younger

and older children and which intercorrelated with one another as a set, producing satisfactory internal consistency reliability, were retained within five scales of the AEL modification of the Developmental Profile (see Appendix A for further information on this work). This modification of the Profile was the instrument used by program users and AEL during the impact evaluation field test for the purposes previously identified. The Developmental Profile was further used in the validation of a curriculum-specific appraisal instrument as described later in this section.

In Fall, 1974, concurrently with the design of the two Files sets, AEL began work on a curriculum-specific battery of scales which would provide a more exact match to the purposes of the Files sets. This battery was envisioned as being both of greater value to program users for making assignments of activities to children and of greater sensitivity to treatment effects when used as a program evaluation device. Work on the battery proceeded slowly throughout the ensuing period up until Fall, 1976, resulting in the creation of a preliminary battery called Appraisal of Individual Development (AID) Scales. This battery is designed to measure children's progress in 14 developmental areas corresponding to 14 clusters subsuming the 59 competencies used in the Aids to Early Learning materials. Table 3 below shows approximate correspondences between the developmental areas and the respective clusters.

Table 3

Competencies Clusters Resulting From Combining of 59 Competencies

Cluster Number	Name of Cluster (Competency #)	Developmental Profile Match
1	Gross Motor (1)	Physical

Table 3 (Cont'd.)

Cluster Number	Name of Cluster (Competency #)	Developmental Profile Match
2	Hand-eye Coordination (2,3,4,5)	Academic
3	Perception (6,7,8,9,10)	Not represented
4	Independence (11,12)	Self-Help
5	Social Maturity (13,14,15,16,17,18, 19,20)	Social
6	Relating to Adults (21,22,23)	Social
7	Attention Getting (24,25)	Social
8	Self-Concept (26,27,28)	Not represented
9	Emotional Expression (29,30,31)	Not represented
10	Fantasy or Imagination (32,33)	Not represented
11	Responding to Environment (34,35,36, 37,38,39)	Not represented
12	Language (40,41,42,43,44,45,46,47,48)	Communication
13	Conceptual Development (49,50,51,52, 53,54,55)	Academic
14	Number Concepts (56,57,58,59)	Academic

The AID Scales were, therefore, seen ultimately as replacements for the use of the Developmental Profile or AEL's revision of it. Further, the AID Scales would become a part of the curriculum materials so that users of the Files would have available a criterion-referenced progress measurement device along with the Files sets.

An initial validation study of the AID Scales was carried out during FY 77. These results are mentioned only briefly here, because the work is still in progress and will continue for probably two additional years

through FY 79. Further description of the Scales is provided in a first draft User's Manual that accompanies the experimental edition of the AIDS. Although the Manual was not expected to be available at this time, the preliminary draft is provided to NIE along with this final report to document progress.

In the study completed during FY 77, 89 children ranging in age from 40 to 72 months were observed in two preschool settings, both by a member of the AEL staff and by their teachers. Thus far, separate Guttman scalogram analyses and internal consistency reliability analyses have been performed on the AID Scales, using results from the AEL observer as one data set and the pooled results from eight teachers as a second data set. Internal consistency coefficients of approximately the same magnitude were obtained for the respective Scales from the specially trained observer and from the teachers. Further, essentially the same items contributed to the reliability scale variance in both data sets. Satisfactory internal consistency coefficients were obtained from both data sets for a large majority of the Scales. Those Scales which showed lower than hoped for internal consistency were generally Scales which, by their nature, were designed to measure characteristics that were either early appearing or late appearing in the age range 24 through 84 months. Thus, sample limitations of the child group are currently considered the reason for the lower coefficients obtained in these instances. Further study will be required of this.

The AEL observer and the teacher group also completed the unrevised Developmental Profile for the 89 children. Future validation work will emphasize correspondences between children's standings on the five scales

of the Developmental Profile and the approximately 14 satisfactory internally consistent scales of the AIDS battery. Other studies will focus on the presumed factor structure of the two batteries combined to clarify the construct validity of the AID Scales.

AEL will find it possible in connection with its HOPE Follow-Up study during FY 78 to gain further validation data on the AID Scales. Requests for continued specific NIE funding of the AID Scales' further development is not, in any case, envisioned within the 3-5 year AEL plan submitted to NIE during FY 77. Preliminary results with the AID Scales are, however, sufficiently promising that AEL staff will seek additional outside support for this work from NIE and other sources.

Appendix A

A SUMMATIVE EVALUATION OF THE AIDS TO EARLY LEARNING 1976-1977

by:

Del A. Lawhon
Division of Early Childhood/Parenting

Appalachia Educational Laboratory, Inc.
Charleston, West Virginia 25325

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TABLE OF CONTENTS

	Page
Introduction	1
Purpose	6
Limitations of the Study	8
Collection of Data	11
Programs and Subjects	14
Analysis of Data	16
Results	19
Total Subjects	19
Classroom Files	22
Head Start--Classroom Files	23
Day Care--Classroom Files	26
Kindergarten--Classroom Files	27
Head Start--Combination of Files	29
Day Care--Combination of Files in Classroom	31
Head Start, Home-Based--Day Care and Home Files	32
Age and Sex Analysis	34
Utilization of Files	35
Impact on User's Practices	36
Summary of Results	38
References	44
Appendices	45
A: Learning Activities Files Evaluation Data	
B: Activities Usage from Files	
C: Actual and Predicted Development for Field Test Subgroups	
D: Utilization of Files Data	

Introduction

The Aids to Early Learning (AEL) materials, i.e., the Classroom Learning Activities Files and the Day Care and Home Learning Activities Files, being investigated in this study are products resulting from several years of experiments related to the Home-Oriented Preschool Education (HOPE) program. The HOPE program was a home-oriented instruction system for three-, four-, and five-year-old children. HOPE consisted of three components: (1) daily 30-minute television lessons broadcast into the home, (2) weekly home visits by paraprofessionals who demonstrated to the parent how to teach the child, and (3) group instruction provided once each week in a mobile classroom. This program was field tested for three years in Southern West Virginia, from 1969-71. The results of the field test are documented in Summative Evaluation of the Appalachia Preschool Program, Summary Report (Bertram, Hines, and Randolph, 1971). Since 1971, subsequent research based upon the philosophical and programmatic framework of the HOPE program has been conducted.

The latter research was designed to (a) document competencies that the typical child should have by age six, (b) validate learning activities which could produce these competencies in young children, and (c) identify an optimum mix of learning activities for preschool children of different developmental ages.

Numerous research efforts focused on each of the preceding three areas. In the first area, a program of research was conducted using national and Appalachian panels of child development experts; more than 900 Appalachian parents verified and further refined the earlier findings. Results from this work were extended by literature search. Together these methods led to identification of 59 competencies applicable to children by the age of school

entrance. In a related conceptual activity, general goals, performance statements, and criterion statements were prepared for each competency.

The second area effort involved using the competency base to identify learning activities which might foster each competency at three, four, and five years of age, respectively. A national panel of child development and early childhood education experts rated the appropriateness of five sample learning activities for each competency. This process was cycled through a second iteration. The resulting learning activities became the models or examples from which the Classroom Learning Activities Files and the Day Care and Home Learning Activities Files were developed.

Third, a study of children's play, via an extensive literature search coupled with expert panel ratings, identified play levels and natural play activities of children associated with particular competencies. From these, judgements were made concerning children's readiness for learning of particular competencies and competency clusters, and determinations were made of the optimum mix of competency-related learning activities for developmental threes, fours, and fives.

The development of the Files involved several staff members and consultants. Each activity was systematically reviewed and critiqued to assure that the end product would be based upon all previous research findings and most of all usable by the practitioner working to promote development in young children. The end results were two sets of Files containing approximately 900 activities each, designed for children of differing developmental age levels.

Work on the Files was completed in the Fall of 1975, and plans were formulated to conduct a formative evaluation of the Files in the Spring of 1976. The major purpose as stated in the NIE Scope of Work Statement for

1975-76 was to collect data to "Prepare final editing specification. . ." To accomplish this the following objectives were established.

1. Usability. To determine whether the Files were usable in various program settings.

2. Content. To determine appropriateness of the content of the Files.

3. Age-Appropriateness. To determine whether the Files were appropriate for children ages three, four, and five.

Forty-four programs in 14 different states responded to the Division of Early Childhood's solicitation for field test sites. The 14 states were: Alabama, Idaho, Illinois, Kentucky, Missouri, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin. Program types included Head Start, day care, kindergarten, handicapped, and nursery school/child development. Program variations included center based, home based, and a combination of center and home based. Approximately 197 classroom teachers and 118 home visitors, and approximately 5,055 children participated in the field test.

To determine the usability of the Files in the various program settings, the following types of data were collected. Prior to implementation of the field test, potential users were instructed to record the number of times each activity was used and to record any comments about the activity deemed necessary. These usage data and written comments were collected at the end of the field test and systematic recordings were made of each type of data by the various program users. An evaluation form was developed, distributed to all users, collected, and the results were analyzed. Additionally, written, evaluative comments were solicited from program directors, curriculum specialists and others responsible for program operations and curricular planning. These data separately and collectively allowed determination of the usability of the Files.

In order to determine if the content was indeed appropriate for use with young children, and at the same time meshing with the differing philosophies and emphasis of the programs, data were collected by the previously mentioned methods and analyzed. Specific items from the evalution form and written comments received more weight in making this determination.

The four procedures for collecting data were also utilized in determining the age appropriateness of the Files. Each activity contained specific "Age Variations" noting how each child, developmentally, would perform, and react to the activity. In some programs there was homogeneity of age, and in others heterogeneity of age. More weight was given to comments regarding age-appropriateness in these determinations.

In summary, data from the Spring Formative Evaluation Field Test allowed the following conclusion to be made. The Classroom Files were most usable in kindergarten, day care, Head Start and programs for the handicapped, and less usable in nursery school and child development programs. The Day Care and Home Files were found to be more usable in home-based programs and less usable in center-based programs. Center-users indicated they utilized the Day Care and Home Files more as a resource for ideas than as a major source in their curriculum.

The content of the Classroom Files was judged to be quite appropraite with only minor alterations and revisions deemed necessary. Programs with differing philosophies and emphases had little difficulty adapting and using the Classroom Files. Home users of the Day Care and Home Files found the content more appropriate than did center users.

When used with children ages three, four, and five, the Classroom Files were evaluated as very age appropriate. Home users of the Day Care and Home Files found the content more age-appropriate than did the center users.

The findings from the Spring Field Test, 1976, provided the necessary data for revision and editing purposes. Those revisions and edits which affected the Files' activities usability, content, and age-appropriateness were rated and disseminated to the Spring Field Test users and potential users in the Summative Field Test.

A major effort of the Division of Early Childhood/Parenting (DEC/P) for the 1976-77 program year was a summative evaluation of the Files, which was detailed in the scope of work statement. It was necessary to begin preparations and solicitation for field test sites in August and September, 1976. In August, 1976, such a solicitation by Memorandum was made to over 100 early childhood and child development programs within the Appalachian Region and to various programs outside the Region. Thirty-three programs responded and expressed interest. From mutual agreement and understanding of the tasks and established criteria, 20 programs agreed to use the AEL materials, but without the formal collection of data. These programs were identified for evaluation purposes as Secondary field-test sites. These programs agreed to use the Files and provide secondary type data via evaluation forms and written comments.

Thirteen programs agreed to participate and collect all necessary data, and DEC/P staff evaluated these programs as being able to meet the established criteria. Nine of the thirteen sites had participated in the formative evaluation of the Aids to Early Learning in the Spring, 1976 field test, and were therefore familiar with the curriculum materials. Also, these sites were utilizing or were familiar with the Developmental Profile as a result of their previous involvement. These programs were identified for evaluation purposes as Primary sites. Eight states were represented in the field test, seven within the Appalachian Region and one outside the Region.

The criteria established and utilized for selection of Primary field test sites were:

- Programs agreed to participate as a field test site for a minimum of six months.
- Programs agreed to utilize the Files as a major curriculum source.
- Programs conducted a pre- and post-assessment of the program's children utilizing an appropriate developmental test and shared these data with AEL's Early Childhood staff.
- Programs designated as Primary field test sites represented a program variation or intervention strategy needed in the study.
- Programs assigned experiences (Files activities) to children based upon their level of development and recorded the number of activities used.
- Programs provided other data, via evaluation forms and reports.

Purpose

The primary purpose of the study was to test the effectiveness of the Classroom Learning Activities Files and the Day Care and Home Learning Activities Files in increasing the development and skills of preschool children in five areas measured by the Developmental Profile: Physical, Self-Help, Social, Academic, and Communication development. The children (N = 788) were three-, four-, and five-year olds who were enrolled in Head Start, day care, and kindergarten programs.

A secondary purpose was to evaluate the effects of the Day Care and Home Learning Files and the Classroom Learning Activities Files on user practices in the participating field sites.

The hypotheses to be tested were:

Hypothesis 1-5: Subjects (N = 788) in general using either of the Files will score significantly higher than would be predicted on each of the five scales of the Developmental Profile.

Hypothesis 6-10: Subjects (N = 421) in general using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.

Hypothesis 11-15: Subjects (N = 114) in Head Start programs using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.

Hypothesis 16-20: Subjects (N = 125) in day care programs using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.

Hypothesis 21-25: Subjects (N = 197) in kindergarten programs using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.

Hypothesis 26-30: Subjects (N = 270) in Head Start programs using the Classroom Learning Activities Files and the Day Care and Home Learning Activities Files in combination[1] will score significantly higher than would be predicted on each of the five developmental scales.

Hypothesis 31-35: Subjects (N = 68) in day care programs using the Classroom Learning Activities Files and the Day Care and Home Learning Activities Files in combination[2] will score significantly higher than would be predicted on each of the five developmental scales.

Hypothesis 36-40: Subjects (N = 14) in Home-Based programs using the Day Care and Home Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.

In addition to the above hypotheses, comparisons were made on the basis of sex and age. These analyses were conducted utilizing a 2 x 3 factorial analyses of variance, with pretest scores being covaried to rule out any

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[1] Children attend class one day per week and receive instruction in the home via a home visitor.

[2] Classroom and Day Care and Home Files are used in combination in a classroom setting.

initial differences. This type of analyses will allow the following null hypotheses to be tested.

Hypothesis 41-45: There will be no significant differences in the amount of gains in development on each of the five developmental scales between males and females when either of the Files are used as treatment variables.

Hypothesis 46-50: There will be no significant differences in the amount of gains in development on each of the five developmental scales between 3-, 4-, and 5-year olds when either of the Files are used as treatment variables.

Limitations of the Study

A study to determine the effectiveness of a curriculum is generally designed to exert a great deal of control over the environment, subjects, independent and dependent variables. This end is accomplished by controlling where the study is to take place, who will be implementing the curriculum, who will be the subjects, to what degree the subjects will recieve the curriculum, etc. Studies of this nature would generally involve an experimental and a control group so that comparisons could be made and any differences could be attributed to the independent variables. Although random selection of subjects is most desirous, this is not always feasible in educational research. A study so designed does allow for certain claims to be made about the purity of gains or lack of gains, but suffers somewhat when generalizations to other programs, subjects, ages, etc., need to be made and are not accounted for in the original study.

This study was initiated with the realization that possible threats to the internal validity existed. Defined, internal validity refers to the extent to which it can be argued that the administration of the treatment was the cause of the gain that was observed from the pretest to posttest. There

were several threats to the internal validity of the design used in the study, and the results were analyzed and interpreted accordingly.

Testing. This threat refers to the potential effects that taking a pretest can have on the posttest scores. For example, scores on an achievement test may increase slightly on the posttest even thought the treatment is ineffective. Also, subjects may fake scores on personality tests or attitude tests if they become aware of the nature of the experiment. However, in the field study, testing should not have been a serious threat to the internal validity of the study, since the subjects were not aware that they were being tested when the pretest data were being collected.

Regression. This threat refers to the fact that subjects who score extremely low on the pretest will tend to score higher on the posttest even though the treatment is ineffective. This increase from pretest to posttest could be mistakenly labeled as a treatment effect. Since the subjects were not selected for the field study on the basis of extremely low scores on a pretest, regression should not be a serious threat to the internal validity of the field study.

Instrumentation. This threat refers to changes in the measurement procedure that could result in differences between the pretest and posttest scores. This difference could be mistaken for a treatment effect. In the field study, the teachers were measuring the students' developmental skills first in September and October and then again in May or June. It was felt that the skill of the teacher in rating her students was substantially the same at the two measurement times. In addition, due to the long time between ratings, the teacher probably did not remember how she rated each specific student.

History. This threat refers to the occurrence of outside events that could cause differences between the pretest and posttest scores that could

be mistaken for a treatment effect. This would seem to be a potential threat in the field study. For example, children at ages 3, 4, and 5 are beginning to have more contact with other children and adults outside their immediate families. They could begin attending Sunday School classes; they could be going home with friends and interacting with their friends' parents; and they could be coming in contact with more developmentally advanced children on the playground. These contacts could have the effect of increasing the developmental skills of the subjects in the field study.

Maturation. This treatment refers to biological and psychological changes that take place between the pretest and posttest. These changes could affect the scores on the pretest and posttest thus producing a difference that could be mistaken for a treatment effect. This would also seem to be a potential threat to the internal validity of the field study. "In remedial education, which focuses on exceptionally disadvantaged persons, a process of wound healing, may be mistaken for the specific effect of a remedial X. (Needless to say, such a remission is not regarded as 'spontaneous' in any causal sense, but rather represents the cumulative effects of learning processes and environmental pressures of the total daily experience, which would be operating even if no X had been introduced.)" (Campbell and Stanley, 1963). However, the procedure for calculating the expected gain (detailed in another section of this report) may provide a partial control for this threat. The developmental rate (DA/CA) was computed using the pretest data. This rate reflects the effects of the overall environment to that point in time. If it can be assumed that that rate remained constant over the next few months, then to that extent the threat of maturation was controlled.

Confounding. This threat refers to the potential influence of an extraneous, uncontrolled variable on the gain scores. In the field study the

uncontrolled variable consisted of the experiences the children had in the program they were attending. These experiences could produce differences between pretest and posttest scores that could be mistaken for a treatment effect. A research design with a control group that would not have received the Files would have been needed to control for the confounding present in the field study.

Collection of Data

Four procedures were utilized for collection of data during the field test. They were: (1) assessment of children's development on a pre-post bases, (2) information provided by teachers via an evaluation form, (3) data relating to the usage of the Files activities, and (4) formative data collected by interview regarding the impact of the Files on the user's program.

The Developmental Profile was identified as the instrument most appropriate for collecting data relating to children's development during the field test. The Profile is an inventory of skills which has been designed to assess certain aspects of a child's development from birth to pre-adolescence. The Profile consists of 217 items arranged into five scales. All scales have the items arranged into age levels. The age levels proceed at six-month intervals, from birth to 3 1/2 years and thereafter by year intervals. Each age level consists of three items. The Profile yields results, expressed in months, in areas of physical (motor), self-help, social (emotional), academic (cognitive), and communication (language) development.

Certain revisions were made to the Profile to make it more easily administered, scored, and interpreted by the local program's teachers. Since the age range of the children participating in the field test was from 36-72 months, it was possible to truncate the Profile at the lower and upper levels.

All items assessing development below 18 months and above 90 months were eliminated. This truncation allowed both a basal and ceiling to be established for each scale, with a constant 18 months being added to each individual's scale score. Children with developmental age scores on a particular scale below 24 months and above 78 months on the pretest were not included in the final analysis. Additional revision included elimination of one item from each age level grouping of three.

Reliability coefficients for internal consistency for the five scales of the revised Developmental Profile were computed on 1,050 cases. The coefficients were: Physical Scale .79; Self-Help Scale .78; Social Scale .82; Academic Scale .87; and Communication Scale .83. A coefficient alpha of .80 is the generally accepted standard and between 20-30 items are required to obtain this level (Nunnally, 1967). The alphas obtained for the revised Profile are therefore very respectable, and allow some reliance upon the data obtained for analyses and evaluation of changes in development during the field test.

In another effort to evaluate the reliability and validity of the revised Profile, a local Head Start program administered the original Developmental Profile to 72 children in the three-, four-, and five-year-old age range. The revised Profile was scored, for each child, according to the credit given to the items on the original. Pearson correlations between scales were obtained and are reported in Table 1.

Additional analyses of the revised Profile include: Inter-scale correlations, item-to-item and item-to-scale correlations, frequency of pass-fail for each item by age, sex and income level, and Guttman scalogram analysis. These data will assist in further revisions and will be reported in a technical report to be issued by the Laboratory at a future date.

Table 1

Pearson Correlations Between Scales for the Original and Revised Developmental Profile

Revised	Original				
	Physical	Self-Help	Social	Academic	Communication
Physical	.95				
Self-Help	.74	.89			
Social	.74	.75	.94		
Academic	.69	.72	.81	.87	
Communication	.74	.70	.81	.78	.91

Significance = .001
N = 72

The Profile was administered to all children in the Primary field test programs, both pre- and post- by the program's teachers. Each program was given instructions regarding administration and scoring procedures and how to interpret results for curricular planning. Instructions on interpretation of Profile results contained the caution that "the results are not absolute, but can be interpreted as reasonable indicators." Local programs were given the option to score and interpret the Profiles themselves or send them to the DEC/P staff for scoring, profiling the results and specific comments for curricular planning, which were returned to the local programs. Data from both options were checked for accuracy and coded for computer analysis.

An evaluation form (Appendix A) consisting of nine items was sent to each teacher participating in the field test. Sixty-seven teachers completed, and returned this form at the end of the field test. Information obtained from this form related to: Number of years of experience teaching, level of education, methods utilized in selecting Files' activities, areas of development most important for children, area of development children would achieve

the most gains in, percentage of time or emphasis given to curricular areas, and to what extent the Files were utilized as part of the curriculum. These data were checked for accuracy and completeness, and coded for computer analysis.

During the orientations given to field test sites, each DEC/P staff member encouraged teachers to maintain accurate records concerning the number of times each activity within the 59 competencies was used. At the end of the field test, a one-page form (Appendix B) was sent to each teacher to collect these data. Sixty-seven teachers completed and returned this form. The DEC/P staff categorized and coded these usage data into five areas of development corresponding to the five Developmental Profile scales.

During the field test period, programs were encouraged to provide written comments or notations of any changes in their practices. Also, at the end of the field test all Primary programs were contacted by phone and where possible the directors, curriculum specialists and a certain number of teachers were interviewed by phone by an experienced interviewer. The interviewer focused upon what impact did the Files have upon the users program. These data are presented in the result section of this report.

Programs and Subjects

As noted in the introduction of this report, 33 programs responded to the Division of Early Choldhood's request for participation in the field test. This number was reduced to 13 through mutual agreements and understanding regarding what was required for full participation. These programs were designated as Primary field test sites, and the remaining 20 as Secondary field test sites. Twelve of the 13 Primary programs were able to complete the field test, providing the required data. Only data from the Primary sites were utilized in the impact evaluations of the Files.

There was a total of 788 children tested both pre and post, with the 67 teachers conducting the testing of children, completing the evaluation form, and providing data relating to the usage of Files activities. There were 303 males and 330 females, with no indication of sex for 155. The number of children within certain age ranges are found in Table 2 below.

Table 2

Distribution of Children by Age Range

Number	Age Range
7	30-35 months
172	36-47 months
272	48-59 months
288	60-71 months
49	72-84 months

The following programs were involved in the field test as Primary sites.

Head Start (393 children)

Nicholas County Head Start
Summersville, West Virginia

Upshur County Head Start
Buchannon, West Virginia

Morgan-Lawrence Head Start
Decatur, Alabama

Tri-County Head Start
Saxton, Pennsylvania

Day Care (198 children)

Day Care Services, Inc.
Franklin, Pennsylvania

Young World, Inc.
Lansing, Michigan

Penncrest Day Care
Meadville, Pennsylvania

Tri-County Day Care
Saxton, Pennsylvania

Kindergarten (197 children)

Lawrence County Board of Education
Coal Grove, Ohio

Tazewell Elementary School
Tazewell, Virginia

Western Tennessee School Districts

Margaret Newton Elementary
Tiptonville, Tennessee

Barnetts Chapel
Arlington, Tennessee

Paul G. Caywood Elementary
Lexington, Tennessee

Analysis of Data

The traditional pre-post analysis of data was not selected, since this approach is insensitive to the varying rates of development unique to each child. It is an indisputable conclusion that all children do not develop at the same rate and it can be assumed that the prior rate of development would continue during the field test to some degree. In order to control for this, it was necessary to compute for each child a Coefficient of Rate and a predicted developmental age to which actual development could be compared. The following formula was utilized:

$$\frac{DA}{CA} \quad (\text{time}) + DA = \text{Predicted Developmental Age}$$

DA = Developmental Age obtained at pretest
CA = Chronological Age at pretest
time = Number of months subject received treatment

Such an approach is based upon the assumption $\frac{DA}{CA}$ = a Coefficient of Rate and that this coefficient is an indication of past development as well as future development. If any passage of time is multiplied by this coefficient, the end product will be an estimate of the developmental age change which has or will occur during that time. This value can then be added to the existing developmental age obtained from the pretest and the result will be a predicted or expected developmental age, i.e., at the end of the experience.

To illustrate, the following examples are given. Subject A is chronologically 48 months old, and the obtained developmental age for physical development is 48 months. Subject A participated in the field test for eight months. To obtain the predicted developmental age, we use the previously mentioned formula.

$$\frac{48}{48} \quad (8) + 48 =$$

$$(1) \quad (8) + 48 = 56 \text{ months}$$

At the end of eight months, subject A should have a physical development age of 56 months. This can be compared to the actual developmental age obtained from the posttest and the differences statistically analyzed.

Subject B is chronologically 48 months old, but developmentally measured only 36 months at pretest time. Subject B participated in the field test for eight months. Utilizing the same formula, we can compute the "rate" of development and predict Subject B's developmental age at the end of the field test.

$$\frac{36}{48} \quad (8) + 36 =$$

$$(.75) \quad (8) + 36 = 42 \text{ months}$$

The Coefficient of Rate is .75, and the developmental age is 42 months, i.e., six months of development in an eight-month period is the rate. Actual development, obtained from the posttest, can be compared to the predicted and the differences analyzed statistically.

The correlated t-test was used to test Ho: 1-40. The means of the predicted scores and the posttest scores were compared for significant differences. This is analogous to pairing, i.e., where the same individuals are measured before and after treatment and the obtained scores are paired for analysis. In the present usage, the same individuals' predicted and posttest scores were paired. The purpose of the pairing is to reduce all possible extraneous influences on the variable being measured. That is, pairing reduces the effect of subject-to-subject variability.

In addition to the above analysis, comparisons were made on the basis of sex and age. Scores obtained from the Developmental Profile were positioned in a 2 x 3 table in which the rows were the male and female categories for the variable sex and the columns were the three-, four-, and five-year old

categories for the variable age. A 2 x 3 factorial analysis of variance with unequal cell sizes was performed for each of the five developmental scales. This 2 x 3 analysis yielded a test of the main effects of sex which determined whether one sex gained significantly more than the other. The analysis also yielded a test of the main effects of age which determined if differences existed among the three age levels. Also, this 2 x 3 analysis yielded a test of the interaction between sex and age which determined if the effects of age are similar for the males and females. These data analyses are tabled and discussed in the result section of this report.

Data collected from the evaluation form, completed by 67 teachers, were analyzed to obtain frequencies, means, standard deviations, and percentages. These data were tabled and discussed in the result section of this report.

Results

Total Subjects

Data from the transpositions of the pretest scores into predicted scores and posttest scores were analyzed by the correlated t-test to test hypotheses 1-5. The hypotheses predicted that subjects receiving either of the Files as treatment would have gains in development in the five scale areas significantly greater than predicted development. Data presented in Table 3 below and Figure 1 on the following page reveal statistically and visually that children in the field test did achieve developmental gains, statistically significant ($p < .0005$) beyond that which was predicted.

Table 3

t-test Analysis of the Predicted Developmental Age and Actual Posttest Developmental Age of All Subjects in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd	t-value	d.f.	1 Tail Prob.
Physical	Post	756	68.89	15.78	8.23	755	<.0005
	Predicted		64.37	15.52			
Self-Help	Post	740	69.53	15.14	10.43	739	<.0005
	Predicted		63.78	15.87			
Social	Post	744	69.01	15.91	11.01	743	<.0005
	Predicted		62.16	16.87			
Academic	Post	759	67.00	16.89	19.26	758	<.0005
	Predicted		55.74	17.50			
Communication	Post	771	61.91	16.93	15.39	770	<.0005
	Predicted		52.98	16.13			

The greatest amount of gain occurred in the area of academic development with a mean difference of 11.2 months between the predicted and posttest scores. That is, not only did the children achieve the predicted rate of

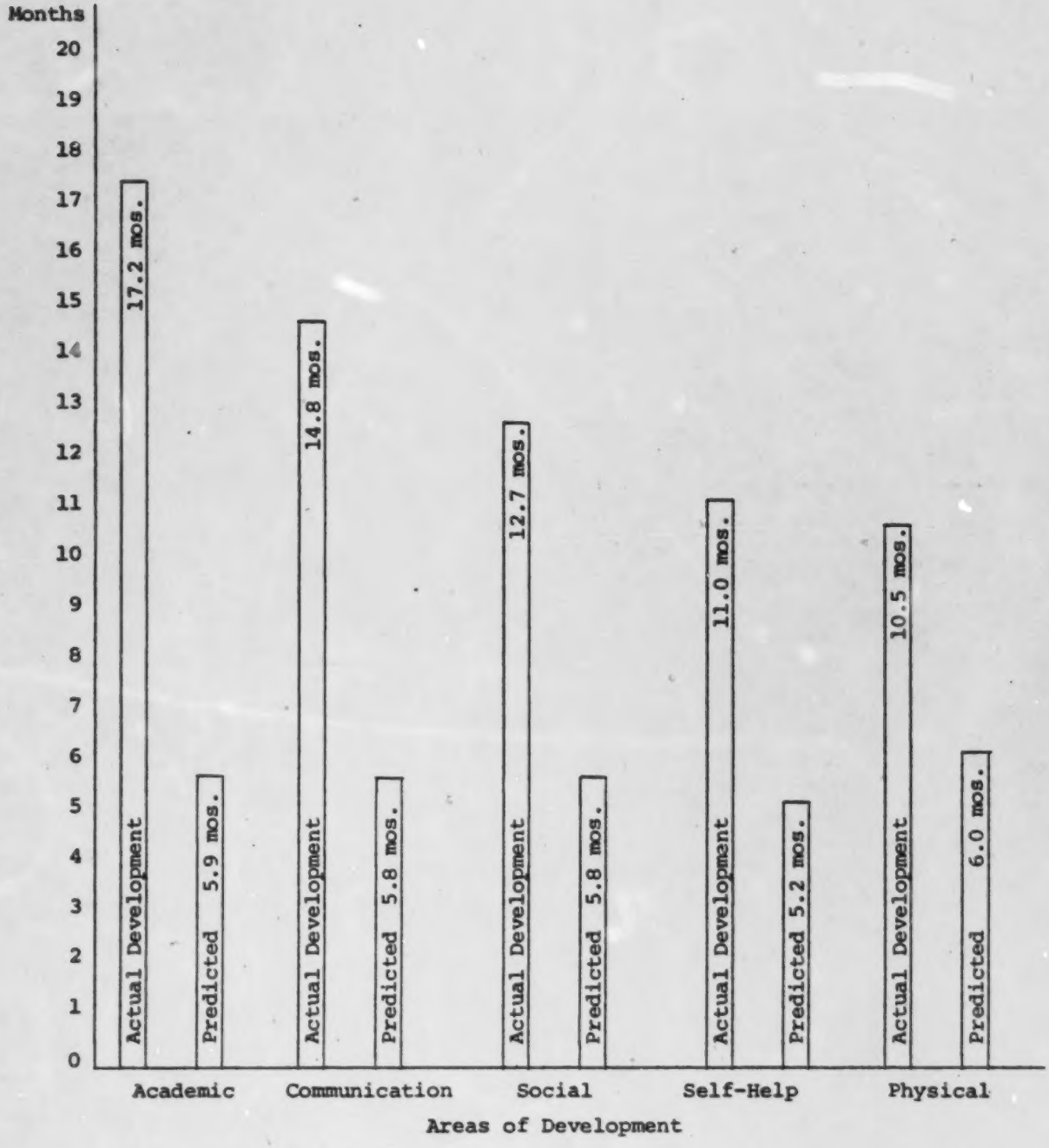

Figure 1

Actual and Predicted Development for
All Subjects in the Field Test*

*See Appendix C for other figures relating to remaining subgroups.

development of 5.9 months, but actually attained 17.2 months. For every month in the field test they were developing approximately at a rate of two and one-half months. The next area of development with the greatest gains was communication with 8.9 months of development beyond what was predicted. This gain is more than double the predicted rate. Social development was 6.8 months greater than the predicted gain. While self-help and physical development were 5.7 months and 4.5 months greater respectively.

The pretest means from the Developmental Profile are presented in Table 4 below, so that comparisons can be made between the pretest means and the chronological age mean. The average chronological age of the children at the time of pretesting was 56.4 months, and at the posttest the average was 63.2. In comparing the average chronological age with their obtained

Table 4

Pretest Means and Standard Deviations for All Subjects Participating in the Field Test

Scale	Pretest Mean	s.d.
Physical	58.3	15.3
Self-Help	58.5	15.5
Social	56.3	16.5
Academic	49.8	16.9
Communication	47.1	15.0

N = 791
C/A = 56.4 at Pretest
C/A = 63.2 at Posttest

developmental ages for each area, it can be noted that physical and self-help development was approximately two months higher than chronological age, and social development was equal to the chronological age. Academic development was 6.6 months below chronological age, and communication development was 9.3 months below chronological age at the time of pretesting. Posttest means found in Table 3 were all above the chronological age average of 63.2 months on all scales with the exception of communication which was 61.9 months.

Classroom Files

The correlated t-test was used to test hypotheses 6-10 for significant differences between the predicted and posttest means on each of the five developmental scales. The hypotheses predicted that subjects receiving the Classroom Learning Activities Files as a treatment variable would have developmental gains significantly greater than the predicted gains. There were 421 children in Head Start, day care and kindergarten who received this treatment. As can be seen from Table 5, significant differences ($p < .0005$) existed between the predicted mean and the post mean on each of the five developmental areas measured.

The largest gains were made in the academic area of development. The difference between the predicted and posttest means was 10.8 months. That is, 10.8 months beyond what was predicted as the normal amount of development. This represented a total of 18.2 months of development for seven months of instruction. The four remaining areas of development represented a more equal rate than noted in Table 3 and the preceding discussion. The mean differences between the predicted and posttest scores are as follows: social, 9.6; communication, 7.6; physical, 7.6; and self-help, 7.0.

In comparing the chronological age mean (57.8 months) at pretest time to pretest scale means, it is noted that two areas of development were higher than

Table 5

t-test Analysis of the Predicted Developmental Age and Actual Posttest Development Age of All Subjects Receiving Treatment of Classroom Files in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd.	t-value	d.f.	1 Tail Prob.
Physical	Post	320	68.59	14.49	8.82	319	<.0005
	Predicted		60.99	15.21			
Self-Help	Post	310	68.95	13.17	8.32	309	<.0005
	Predicted		61.90	15.08			
Social	Post	306	72.44	13.41	10.62	305	<.0005
	Predicted		62.82	16.42			
Academic	Post	313	72.00	13.88	12.93	312	<.0005
	Predicted		61.13	16.98			
Communication	Post	324	64.85	14.42	10.22	323	<.0005
	Predicted		56.87	14.55			

chronological age. Self-Help was 2.1 months higher and social development was .9 months higher. The other three areas were lower: physical, 1.9; academic, 4.0; and communication, 6.7 months. The posttest means were all higher than the chronological age mean (64.7 months) at the time of posttesting. That is to say, children receiving the Classroom Files as a major source of curriculum, not only closed the gap between lagging development and their chronological age, but finished the year functioning, on the average, above their chronological age in all five areas of development. These data are found in Table 6.

Head Start--Classroom Files

There were 114 subjects enrolled in Head Start who received the Classroom Files as treatment. Data were analyzed to test the hypotheses 11-15 that actual gains during the field test would be significantly greater than that predicted. From these analyses, significant differences ($p < .0005$) between the predicted

Table 6

Pretest Means and Standard Deviations for All Subjects Participating in the Field Test Receiving the Classroom Files as Treatment

Scale	Pretest Mean	s.d.
Physical	55.9	14.7
Self-Help	59.9	15.4
Social	58.7	15.3
Academic	53.8	16.2
Communication	51.1	13.5

N = 421
C/A $\bar{X}$ 57.8 at Pretest
C/A $\bar{X}$ 64.7 at Posttest

and posttest means were obtained for the five areas of development. Table 7 presents the individual means for the posttest and predicted as well as the statistical significance levels for the t-test which was performed on these data. The two areas in which the most gains were obtained were academic and communication with approximately 10 months in each area. This corresponds to approximately 17 months of development for the seven-month field test period. Gains for the other three areas of development exceeded the predicted rate in this order: physical, 8.8; social, 6.2; self-help, 4.6.

The average chronological age (15.8 months) for the Head Start children was 51.8 months. At the time of pretesting they were developmentally performing at a higher level than their chronological age in physical (56.9 months), self-help (67.9 months), and social (59.7 months) as can be noted in Table 8. In academic and communication development, they were performing at a lower level with averages of 47.7 and 49.1 respectively. The chronological age average of 58.8 months at posttest time can be compared to the posttest means of the five areas of development in Table 7 and it can be noted that all are higher.

Table 7

t-test Analysis of the Predicted Developmental Age and Actual Posttest Developmental Age of Head Start Subjects Receiving Treatment of Classroom Files in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd	t-value	d.f.	1 Tail Prob.
Physical	Post	112	73.48	13.68	8.06	111	<.0005
	Predicted		64.65	13.57			
Self-Help	Post	107	80.42	12.11	4.22	113	<.0005
	Predicted		75.78	13.05			
Social	Post	112	74.06	12.36	5.29	111	<.0005
	Predicted		67.84	11.85			
Academic	Post	113	64.76	13.10	9.14	112	<.0005
	Predicted		54.33	13.28			
Communication	Post	113	66.23	16.79	7.70	112	<.0005
	Predicted		55.86	12.24			

Table 8

Pretest Means and Standard Deviations for Head Start Subjects Receiving Classroom Files as Treatment

Scale	Pretest Mean	s.d.
Physical	56.9	12.6
Self-Help	67.9	12.3
Social	59.7	10.7
Academic	47.7	12.0
Communication	49.1	10.7

N = 114
C/A $\bar{X}$ 51.8 at Pretest
C/A $\bar{X}$ 58.7 at Posttest

Day Care--Classroom Files

Hypotheses 16-20 predicted that children enrolled in day care programs receiving the Classroom Files as treatment would have gains in development significantly greater than predicted. There were 125 children participating, and the duration of the field test was 7.2 months. As Table 9 indicates, statistical significance ($p < .0005$) was obtained for four areas of development. Self-help was the exception where a $p < .09$ level of significance was obtained. Although this does not allow for acceptance of this specific hypothesis, it can be noted that the children did achieve a higher posttest mean score. Again, the greatest gains were made in academic development with 16.8 months, i.e., 7.7 months beyond the predicted rate. Communication (4.4 months) was replaced by social development for the second highest with 6.1 months gain, and the remaining two areas follow with physical, 5.1 months; and self-help with 2.0 months gain beyond the predicted.

Table 9

t-test Analysis of the Predicted Developmental Age and Actual Posttest Developmental Age of Day Care Subjects Receiving Treatment of Classroom Files in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd	t-value	d.f.	1 Tail Prob.
Physical	Post	118	62.72	17.73	3.06	117	<.001
	Predicted		57.54	15.68			
Self-Help	Post	112	66.16	13.90	1.31	111	NS
	Predicted		64.06	14.38			
Social	Post	116	66.00	14.17	3.88	115	<.0005
	Predicted		59.93	17.83			
Academic	Post	113	63.79	14.37	4.64	112	<.0005
	Predicted		56.05	16.83			
Communication	Post	119	57.20	13.28	3.20	118	<.001
	Predicted		52.78	13.71			

The chronological age mean for the day care children was 49.4 at the time of the pretest. Physical and self-help and social development were higher, and academic and communication development were lower (Table 10). But all test means were higher than the chronological age mean of 56.6 at the time of posttesting.

Table 10

Pretest Means and Standard Deviations for Day Care Subjects Receiving the Classroom Files as Treatment

Scale	Pretest Mean	s.d.
Physical	50.2	14.1
Self-Help	58.2	14.9
Social	52.0	17.6
Academic	46.9	16.6
Communication	45.4	13.3

N = 125
C/A = 49.4 at Pretest
C/A = 56.6 at Posttest

Kindergarten--Classroom Files

Hypotheses 21-25 stated that children enrolled in kindergarten programs receiving the Classroom Files as treatment would achieve greater gains than predicted in each of the five developmental areas measured. The means were analyzed for significant differences, and the results are reported in Table 11. It can be noted that statistical significant differences ($p < .0005$) were obtained in all five areas. The greatest gains were made in academic development with 13.2 months beyond the predicted rate. This was followed by social, 13.1; communication, 11.1; self-help, 11.1; and physical, 9.9 development.

Table 11

t-test Analysis of the Predicted Developmental Age and Actual Posttest Developmental Age of Kindergarten Subjects Receiving Treatment of Classroom Files in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd	t-value	d.f.	1 Tail Prob.
Physical	Post	178	73.61	10.13	9.98	177	<.0005
	Predicted		63.66	15.05			
Self-Help	Post	174	70.93	12.79	11.51	173	<.0005
	Predicted		59.81	15.71			
Social	Post	166	78.45	9.65	11.92	165	<.0005
	Predicted		65.29	15.82			
Academic	Post	176	78.51	9.80	14.15	175	<.0005
	Predicted		65.25	16.12			
Communication	Post	181	71.45	11.20	13.03	180	<.0005
	Predicted		60.33	14.88			

The kindergarten children achieved over-all the greatest gains in all five areas of development than any other sub-group of subjects. Also, these gains were more balanced between developmental areas than other gains made by other sub-groups.

The pretest means were lower than the chronological age mean of 67.2 months in all five areas of development at the beginning of the field test. The kindergarten children had the greatest deficits between chronological age and developmental ages than any other sub-group of subjects. But at the time of posttesting, the gap between the chronological age and developmental ages had been closed considerably. As can be seen in Table 11, the developmental age means in the social and academic areas exceeded the chronological age mean of 73.7 months. Self-help, physical and communication were approximately two months lower. These data are presented in Table 12.

Table 12

Pretest Means and Standard Deviations for Kindergarten Subjects Receiving the Classroom Files as Treatment

Scale	Pretest Mean	s.d.
Physical	59.3	14.6
Self-Help	56.6	15.8
Social	62.3	15.6
Academic	60.9	15.5
Communication	55.8	14.1

N = 187
C/A $\bar{X}$ 67.2 at Pretest
C/A $\bar{X}$ 73.7 at Posttest

Head Start--Combination of Files

Hypotheses 26-30 stated that Head Start subjects (N = 261) who received instruction from the Classroom Files and the Day Care and Home Files would score significantly higher than would be predicted on each of the five developmental scales. This program variation provided experiences in the classroom and in the home, with children attending classes one or two days a week where the Classroom Files were used, and a home visitor visiting the home and using the Day Care and Home Files with the child and parents. The differences between the predicted and posttest means were statistically significant ($p < .0005$) for self-help, social, academic and communication. Physical development was not significant ($p < .27$) since the posttest mean was .5 months lower than the predicted mean. Academic development was the highest with 15.4 months beyond the predicted mean, followed by communication with 13.3 months. Self-help and social development were 6.7 and 5.2 months greater than the predicted mean. These findings are reported in Table 13.

Table 13

t-test Analysis of the Predicted Developmental Age and Actual Posttest Developmental Age of Head Start Subjects Receiving Treatment of Classroom Files and Day Care and Home Files in Combination via Classroom Experience and Home Visitor in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd	t-value	d.f.	1 Tail Prob.
Physical	Post	242	68.23	15.45	-0.60	241	NS
	Predicted		68.79	14.88			
Self-Help	Post	250	64.83	14.91	7.14	250	< .0005
	Predicted		58.04	13.33			
Social	Post	241	64.70	16.45	4.84	240	< .0005
	Predicted		58.43	17.09			
Academic	Post	248	64.84	19.03	12.98	247	< .0005
	Predicted		49.39	18.01			
Communication	Post	250	57.70	18.11	11.32	249	< .0005
	Predicted		44.31	15.95			

By referring to Table 14, the pretest means for each developmental area can be compared to the chronological age mean. Physical development was

Table 14

Pretest Means and Standard Deviations for Head Start Subjects Receiving Classroom Files and Day Care and Home Files, Via Classroom Experience and Home Visitor as Treatment

Scale	Pretest Mean	s.d.
Physical	63.0	14.8
Self-Help	53.5	13.6
Social	53.3	17.6
Academic	43.8	17.2
Communication	39.2	14.5

N = 270
C/A $\bar{X}$ 57.1
C/A $\bar{X}$ 63.3

higher than the chronological age, and the other four were lower. Communication was extremely low, being 17.9 lower. The chronological age mean of 63.3 at the end of the field test can be compared to the posttest means found in Table 13, and these are found to be higher than the chronological age, with the exception of communication.

Day Care--Combination of Files in Classroom

Another program variation allowed the use of both Files, i.e., Classroom Files and the Day Care and Home Files in combination in a classroom setting to be studied to determine their impact on children in day care. Hypotheses 31-35 was tested to determine if significant differences existed between the predicted and posttest means. As detailed in Table 15, no significant difference existed in any of the five areas tested. Social and physical development were the only areas which had gains greater than the predicted, while the remaining three were less.

Table 15

t-test Analysis of the Predicted Developmental Age and Actual Posttest Developmental Age of Day Care Subjects Receiving Treatment of Classroom Files and Day Care and Home Files in Combination Via Classroom Experience in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd	t-value	d.f.	1 Tail Prob.
Physical	Post	66	62.65	21.70	0.06	65	NS
	Predicted		62.54	18.10			
Self-Help	Post	61	69.78	18.67	-0.82	60	NS
	Predicted		71.75	16.78			
Social	Post	67	59.25	21.20	0.17	66	NS
	Predicted		58.94	20.49			
Academic	Post	67	55.76	18.98	-0.49	66	NS
	Predicted		56.49	16.84			
Communication	Post	66	53.93	18.40	-1.46	65	NS
	Predicted		56.09	15.28			

Table 16 contains the pretest means and the chronological ages for both pretest and posttest periods. The pretest means were all higher than the chronological age means, while posttest means were higher only on physical, self-help, and social development. Academic and communication development means were lower.

Table 16

Pretest Means and Standard Deviations for Day Care Subjects Receiving Treatment of Classroom Files and Day Care and Home Files in Combination Via Classroom Experience

Scale	Pretest Mean	s.d.
Physical	55.3	17.6
Self-Help	64.6	16.5
Social	51.2	18.1
Academic	49.2	15.3
Communication	49.4	14.7

N = 69
C/A $\overline{X}$ 49.1 at Pretest
C/A $\overline{X}$ 57.1 at Posttest

Head Start, Home-Based--Day Care and Home Files

Hypotheses 36-40 predicted that children in a Head Start home-based program using the Day Care and Home Files would achieve greater gains in development than predicted. As can be noted in Table 17, no significant differences existed between the predicted age mean and posttest age mean in physical, self-help, social and communication development. Academic development was significantly ($p < .0005$) greater than the predicted rate.

The chronological mean age of these children was 51.7 at the time of pretesting. This age mean can be compared to the five scale means in Table 18 where only one mean, academic, is lower than the chronological mean age. The

chronological age of 58.7 at the time of posttesting, is lower than the means on the physical, self-help, social and academic scales, but higher than the communication mean.

Table 17

t-test Analysis of the Predicted Developmental Age and Actual Posttest Developmental Age of Head Start Home-Based Subjects Receiving Treatment of Day Care and Home Files in Five Areas of Development

Scale	Variable	N	$\bar{X}$	sd	t-value	d.f.	1 Tail Prob.
Physical	Post	13	64.38	9.69	-0.45	12	NS
	Predicted		65.61	8.28			
Self-Help	Post	13	68.53	8.73	0.08	12	NS
	Predicted		68.23	9.37			
Social	Post	14	58.78	9.93	-1.58	13	NS
	Predicted		64.57	12.02			
Academic	Post	14	63.85	13.38	4.14	13	<.0005
	Predicted		49.78	11.43			
Communication	Post	14	49.71	16.87	-1.85	13	NS
	Predicted		59.71	15.34			

Table 18

Pretest Means and Standard Deviations for Head Start Home-Based Subjects Receiving Treatment of Day Care and Home Files

Scale	Pretest Mean	s.d.
Physical	59.57	10.11
Self-Help	61.92	11.20
Social	56.85	10.86
Academic	43.92	10.29
Communication	52.5	13.59

N = 14
C/A = 51.7 at Pretest
C/A = 58.7 at Posttest

Age and Sex Analysis

To test Hypotheses 41-45 and 46-50, scores obtained from the Developmental Profile were analyzed using a 2 (sex) x 3 (age) factorial analysis of variance for unequal N. The covariance technique was used to adjust pretest scores for significant difference which may have artificially influenced the patterns of results. This analysis was done to determine if one sex had gains significantly greater than the other sex and if one age had gains significantly greater than the other two age groups. Posttest means and standard deviations of the subjects by sex and age for each variable are shown in Table 19. The F-ratios and significance levels obtained from the analysis of variance on these means are in Table 20.

Table 19

Posttest Means and Standard Deviations for Age and Sex in Five Areas of Development

	Sex		Age		
	Male	Female	3s	4s	5s
Physical	$\bar{X}$ = 69.47 sd = 14.49 N = 303	$\bar{X}$ = 69.6 sd = 15.41 N = 330	$\bar{X}$ = 59.00 sd = 15.73 N = 148	$\bar{X}$ = 69.93 sd = 15.00 N = 241	$\bar{X}$ = 75.54 sd = 10.33 N = 244
Self-Help	$\bar{X}$ = 69.47 sd = 14.49 N = 292	$\bar{X}$ = 68.26 sd = 14.42 N = 313	$\bar{X}$ = 64.46 sd = 14.66 N = 151	$\bar{X}$ = 68.67 sd = 15.50 N = 215	$\bar{X}$ = 71.80 sd = 12.57 N = 239
Social	$\bar{X}$ = 68.35 sd = 15.66 N = 292	$\bar{X}$ = 69.98 sd = 15.58 N = 312	$\bar{X}$ = 61.00 sd = 15.00 N = 137	$\bar{X}$ = 67.48 sd = 14.95 N = 239	$\bar{X}$ = 75.91 sd = 13.81 N = 228
Academic	$\bar{X}$ = 66.02 sd = 15.95 N = 295	$\bar{X}$ = 67.85 sd = 16.66 N = 322	$\bar{X}$ = 53.58 sd = 14.47 N = 131	$\bar{X}$ = 64.75 sd = 15.33 N = 241	$\bar{X}$ = 75.32 sd = 11.91 N = 245
Communication	$\bar{X}$ = 60.83 sd = 16.48 N = 301	$\bar{X}$ = 63.16 sd = 16.49 N = 327	$\bar{X}$ = 54.23 sd = 14.77 N = 133	$\bar{X}$ = 59.29 sd = 16.49 N = 239	$\bar{X}$ = 68.68 sd = 14.86 N = 256

No significant main effects for sex were found on any of the five variables. Significant ($p < .001$) main effects for age, i.e., three-, four-, and five-year olds, were found on each of the five variables. No significant interaction effects (age/sex) were obtained.

The Files when used as a curriculum source does not promote development in one sex more than the other sex. But the data suggest that when children are instructed via the Files' activities, those children who are five years of age will benefit more and possibly have greater gains over a period of time than will three- and four-year olds.

Table 20

F Ratios of Analyses of Variance

	Source	
Scale	Sex	Age
Physical	.19	24.01*
Self-Help	.99	8.76*
Social	.73	21.16*
Academic	2.13	53.62*
Communication	1.82	27.36*

* $p < .001$

Utilization of Files

Data collected during the field test regarding the number of activities used and what percent the Files were utilized toward the total curriculum are noted in Table 21 and Appendix D. The differences between the predicted and post-test means are also presented so that comparisons between utilization and gains in development can be made. Usage of the activities corresponds closely to the

number of activities contained in the Files. Teachers generally used more social-related activities followed by academic, communication, self-help, and physical in that order. The number of activities contained in the Files follows the same order, i.e., social activities number 300, academic 270, communication 210, self-help 60, and physical 45.

The Files were made up of about 44 percent of the total curriculum. This indicates that teachers were utilizing other curriculum sources either self developed or more formalized, marketed materials. Yet, the majority of comments made by the teachers indicated that the Files were the major source.

Table 21

Utilization of Files Data for All Teachers
(N = 67)

Scale	Mean Difference	Average No. Activities	% Time Files Utilized
Academic	11.2	162.2	46.5
Communication	8.9	126.9	48.4
Social	6.8	215.3	44.3
Self-Help	5.7	55.2	40.7
Physical	4.5	28.6	41.2

Impact on User's Practices

A secondary purpose of this study was to determine if changes occurred in program practices as a result of using either of the Files and participating in the field test. Referenced programs are those which were involved in the Summative Evaluation Field Test as Primary Sites. There were 13 identified as such at the beginning of the field test, with 12 completing the agreements and supplying the necessary data. The data used to determine impact on user's

practices were collected (1) informally throughout the year by DEC/P staff and (2) through a telephone interview conducted by a staff member at the end of the year. Eleven programs were contacted and 19 staff members were interviewed. No more than three staff members were interviewed from any given program. The identity of persons interviewed depended upon the size of the program and the organizational hierarchy. The break-down of positions interviewed are as follows: program directors 4; education coordinators 1; center directors 4; and teachers 9.

Information collected during the field test period and from the telephone interview indicated that teachers became more oriented toward the developmental needs of children. Teachers seemed delighted with the idea that now they were able to plan according to developmental levels rather than chronological ages. Not only were teachers able to identify the lower levels of development, but were also able to note advanced levels. As one teacher stated "I found that children are much more advanced than I realized."

Since the teachers could identify developmental levels, they were able to provide instruction to meet the individual needs of children. This information was collected by asking interviewees the question "Are there any differences now in planning for children compared with your planning before participating in the field test?" Sixteen (84%) responded with very positive, informative comments. There was a shift from large group instruction to small group or individual instruction. Several teachers, on their own initiative, developed very unique systems of record keeping for individual children. Thus, overall organization regarding curriculum planning was improved.

The teachers became more conscientious of the need for individual child assessment. According to the data, only one program conducted assessments for curriculum planning prior to the field test. A more "informal" approach to

assessment was used in the remaining 11 programs, e.g., "an instrument the director wrote herself," or "assessments were conducted when needed." Nine programs said that they would continue conducting formal assessments because it allows them to plan for the individual needs of children.

All staff interviewed indicated that the Files had improved and strengthened their programs. Areas noted where improvement occurred were: (1) identifying developmental levels, (2) individualization of instruction, (3) pre-planning of curriculum, (4) teachers became more creative and effective, and (5) child and program evaluations.

All interviewees wanted to continue using the Files beyond the field test and plan to do so. The fear of not being able to use the Files lead one teacher to plea "Don't take those Files from us."

Summary of Results

The results presented in the foregoing section indicate that children, attending preschool programs which utilized the Files substantially, did make significant gains in development. Fourty hypotheses were formulated to cover the various types of programs and all possible treatment combinations. These were statistically tested, and the acceptance or rejection of specific hypotheses are noted in Table 23 following this summary section.

From the data, it is evident that the greatest gains occurred in the areas of academic development. This was consistent when data were analyzed for all subjects and the various subgroups. The exception to this were those subjects attending day care and receiving both Files as treatment in a classroom setting. These findings are not consistent with the predictions made by teachers. The majority of teachers (37.3%) predicted that the greatest gains would be made in communication development. The next highest area was social (23.9%) followed

by self-help (17.9%). Academic development was fourth with 11.9% of the teachers predicting that children would have the greatest gains in this area. This tends to rule out the possibility that teachers were influencing the outcomes with hidden biases.

Children participating in programs which utilized the Classroom Files in a classroom setting had greater gains in development than children in other program approaches. Within this setting, Head Start and kindergarten children had greater gains than day care children. Data presented in Table 22 below regarding the number of activities used reveals that day care teachers used fewer Files' activities than Head Start and kindergarten teachers, which may account for less development.

Table 22

Average Number of Activities Used by Head Start, Kindergarten and Day Care Teachers

Scale	Head Start	Kindergarten	Day Care
Physical	45.1	101.6	20.4
Self-Help	162.0	196.0	19.8
Social	624.8	707.4	103.8
Academic	458.4	331.2	92.5
Communication	325.0	247.4	84.0

As noted in the results section, two subgroups of children failed to achieve the expected gains in development; children attending a day care program receiving both Files as treatment, and children participating in a home-based program receiving the Day Care and Home Files. No identifiable reason can be noted for the lack of development in the day care program, except there

seemed to be inflated scores on the pretest which resulted in higher predicted scores. Teachers rating the children in the home-based program tended to rate a number of children lower in development at posttesting than at pretesting. The only area of development where these children had significant gains was in academic development.

The conclusions that can be drawn from the data are:

1. Children attending programs which utilized the Files as a major source of curriculum did achieve significant gains in development in the five areas measured.

2. Children attending programs providing instruction in a classroom setting and utilizing the Classroom Files had overall greater gains than children in other program variations.

3. The greatest gains in development occurred in those programs which utilized the Files' activities on the average more than other programs.

4. There were no differences in the amount of gains made by males or females.

5. There were differences in the gains of development by three-, four-, and five-year olds, with the data indicating that five-year olds had gains greater than the three's and four's.

6. Programs utilizing the Files indicated they were effective in promoting development in young children and that changes had occurred in the programs as a result of their participation.

This Summative Evaluation Field Test was initiated and concluded with acknowledgements that certain internal problems existed with the research design utilized. Whether use of the Files or other intervening variables contributed to the gains in development in the amounts and manner which have been reported may be debated. The field test was conducted under conditions similar to those which future users will encounter. It is therefore recommended that future users conduct similar evaluations within their own program settings to make final determinations as to the effectiveness of the two sets of Files.

Table 23

Acceptance and Rejection of Specific Hypotheses

Hypotheses 1-5:	Subjects in general using either of the Files will score significantly higher than would be predicted on each of the five developmental scales.		
Scales		**Number**	**Accepted (A)/Rejected (R)**
Physical		1	A
Self-Help		2	A
Social		3	A
Academic		4	A
Communication		5	A
Hypotheses 6-10:	Subjects in general using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.		
Scales		**Number**	**Accepted (A)/Rejected (R)**
Physical		6	A
Self-Help		7	A
Social		8	A
Academic		9	A
Communication		10	A
Hypotheses 11-15:	Subjects in Head Start programs using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.		
Scales		**Number**	**Accepted (A)/Rejected (R)**
Physical		11	A
Self-Help		12	A
Social		13	A
Academic		14	A
Communication		15	A
Hypotheses 16-20:	Subjects in day care programs using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.		
Scales		**Number**	**Accepted (A)/Rejected (R)**
Physical		16	R
Self-Help		17	R
Social		18	A
Academic		19	A
Communication		20	R

Hypotheses 21-25: Subjects in kindergarten programs using the Classroom Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.

Scales	Number	Accepted (A)/Rejected (R)
Physical	21	A
Self-Help	22	A
Social	23	A
Academic	24	A
Communication	25	A

Hypotheses 26-30: Subjects in Head Start programs using the Classroom Learning Activities Files and the Day Care and Home Learning Activities Files in combination[1] will score significantly higher than would be predicted on each of the five developmental scales.

Scales	Number	Accepted (A)/Rejected (R)
Physical	26	R
Self-Help	27	A
Social	28	A
Academic	29	A
Communication	30	A

Hypotheses 31-35: Subjects in day care programs using the Classroom Learning Activities Files and the Day Care and Home Learning Activities Files in combination[2] will score significantly higher than would be predicted on each of the five developmental scales.

Scales	Number	Accepted (A)/Rejected (R)
Physical	31	R
Self-Help	32	R
Social	33	R
Academic	34	R
Communication	35	R

[1] Children attend class one day per week and receive instruction in the home via a home visitor.

[2] Classroom and Day Care and Home Files are used in combination in a classroom setting.

Hypotheses 36-40: Subjects in Head Start programs using the Day Care and Home Learning Activities Files will score significantly higher than would be predicted on each of the five developmental scales.

Scales	Number	Accepted(A)/Rejected(R)
Physical	36	R
Self-Help	37	R
Social	38	R
Academic	39	A
Communication	40	R

Hypotheses 41-45: There will be no significant differences in the amount of gains in development on each of the five developmental scales between males and females when eigher of the Files are used as treatment variables.

Scales	Number	Accepted(A)/Rejected(R)
Physical	41	A
Self-Help	42	A
Social	43	A
Academic	44	A
Communication	45	A

Hypotheses 46-50: There will be no significant differences in the amount of gains in development on each of the five developmental scales between 3-, 4-, and 5-year-olds when either of the Files are used as treatment variables.

Scales	Number	Accepted(A)/Rejected(R)
Physical	46	R
Self-Help	47	R
Social	48	R
Academic	49	R
Communication	50	R

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Nunnally, J. Psychometric Theory. New York, New York: McGraw Hill, 1967.

APPENDIX A

Learning Activities Files Evaluation Data

LEARNING ACTIVITIES FILES EVALUATION DATA

Program _____

Teacher _____ Date _____

Center Name or Location _____

1. Number of years' experience teaching in:

   _____ Preschool

   _____ Elementary

   _____ Secondary

   _____ Other; please specify _____

2. Please indicate the highest grade or level of education you have attained by circling the appropriate number.

Elementary/High School	1	2	3	4	5	6	7	8	9	10	11	12
College-Undergraduate	13	14	15	16								
College-Graduate	17	18	19	20								

3. What area(s) of development do you emphasize as most important for your children? (Please check <u>one</u> or <u>two</u>.)

   _____ Language (communication)

   _____ Social/Emotional

   _____ Academic (cognitive)

   _____ Physical (gross and fine motor)

   _____ Self-help and Habits

   _____ Other; please explain _____

   _____

4/14/77

4. Which Files did you use?

_____ Classroom Learning Activities Files

_____ Day Care and Home Learning Activities Files

_____ Combination of the Classroom and Day Care/Home Files

5. In your judgment, are the Files best suited for:

_____ a beginning teacher with no prior experience?

_____ a teacher with a few (1 to 3) years of experience?

_____ a teacher with many (more than 3) years of experience?

_____ all teachers, regardless of experience?

6. Which method for "selection of activities" did you utilize in planning your curriculum emphasis?

_____ AEL's Lesson Plans with the 14 cluster areas.

_____ AEL's Lesson Plans with the 5 broad areas of development.

_____ Selection of activities based upon a child's Developmental Profile, that is, emphasizing weak areas and building on strengths.

_____ My own plan based upon specific procedures. Please explain briefly:

_____

_____

7. In what area of development do you think your children will have the greatest amount of growth and development this year? (Please pick one area.)

_____ Language (communication)

_____ Social/Emotional

_____ Academic (cognitive)

_____ Physical (gross and fine motor)

_____ Self-help and Habits

8. Did you participate in AEL's evaluation field testing activities conducted during Spring, 1976?

_____ Yes _____ No

9. In the right-hand column of Chart I below, please indicate the percentage of time or emphasis given, on the average across the program year, to each of the five curricular areas which correspond to the five scales in the Developmental Profile. If each area receives equal attention, you would put 20 percent in each blank space. If more emphasis is given to one or two areas than the others, try to estimate how much more and note the percentage for each. When added together, they should sum to the total of 100 percent, which is already noted at the bottom of the column.

Chart I

Curricular Area	Percentage of Time or Emphasis
Physical	_____%
Self-help	_____%
Social	_____%
Academic	_____%
Communication	_____%
	Total = 100 %

In the right-hand column below of Chart II, please indicate to what extent the Files were utilized as your curriculum. If the Files' Activities were used as your total curriculum, then you would put 100 percent in each blank space. If you used the Files as one-half of your curriculum for each area, then you would put 50 percent in each blank space. The percentage may vary for each area, and they can add up to a total of more or less than 100 percent.

Chart II

Curricular Area	AEL Files' Utilization
Physical	_____%
Self-help	_____%
Social	_____%
Academic	_____%
Communication	_____%

APPENDIX B

Activities Usage from Files

Activities Usage from Files

Program _____ Date _____

Teacher _____ Center _____

Type of Files Used: ☐ Classroom Files ☐ Day Care and Home Files

Please record in the blank spaces the total number of activities used within each competency. If a particular activity was used more than one time, count each time used in obtaining a total. For example, if C-1-1 was used four times, C-1-2 used two times, C-1-3 used one time, and C-1-4 used one time, your total number of activities used for Competency 1 would be 8.

Comp.	No. Used	Comp.	No. Used	Comp.	No. Used
1	_____	21	_____	41	_____
2	_____	22	_____	42	_____
3	_____	23	_____	43	_____
4	_____	24	_____	44	_____
5	_____	25	_____	45	_____
6	_____	26	_____	46	_____
7	_____	27	_____	47	_____
8	_____	28	_____	48	_____
9	_____	29	_____	49	_____
10	_____	30	_____	50	_____
11	_____	31	_____	51	_____
12	_____	32	_____	52	_____
13	_____	33	_____	53	_____
14	_____	34	_____	54	_____
15	_____	35	_____	55	_____
16	_____	36	_____	56	_____
17	_____	37	_____	57	_____
18	_____	38	_____	58	_____
19	_____	39	_____	59	_____
20	_____	40	_____		

Comments: _____

APPENDIX C

Actual and Predicted Development for Field Test Subgroups

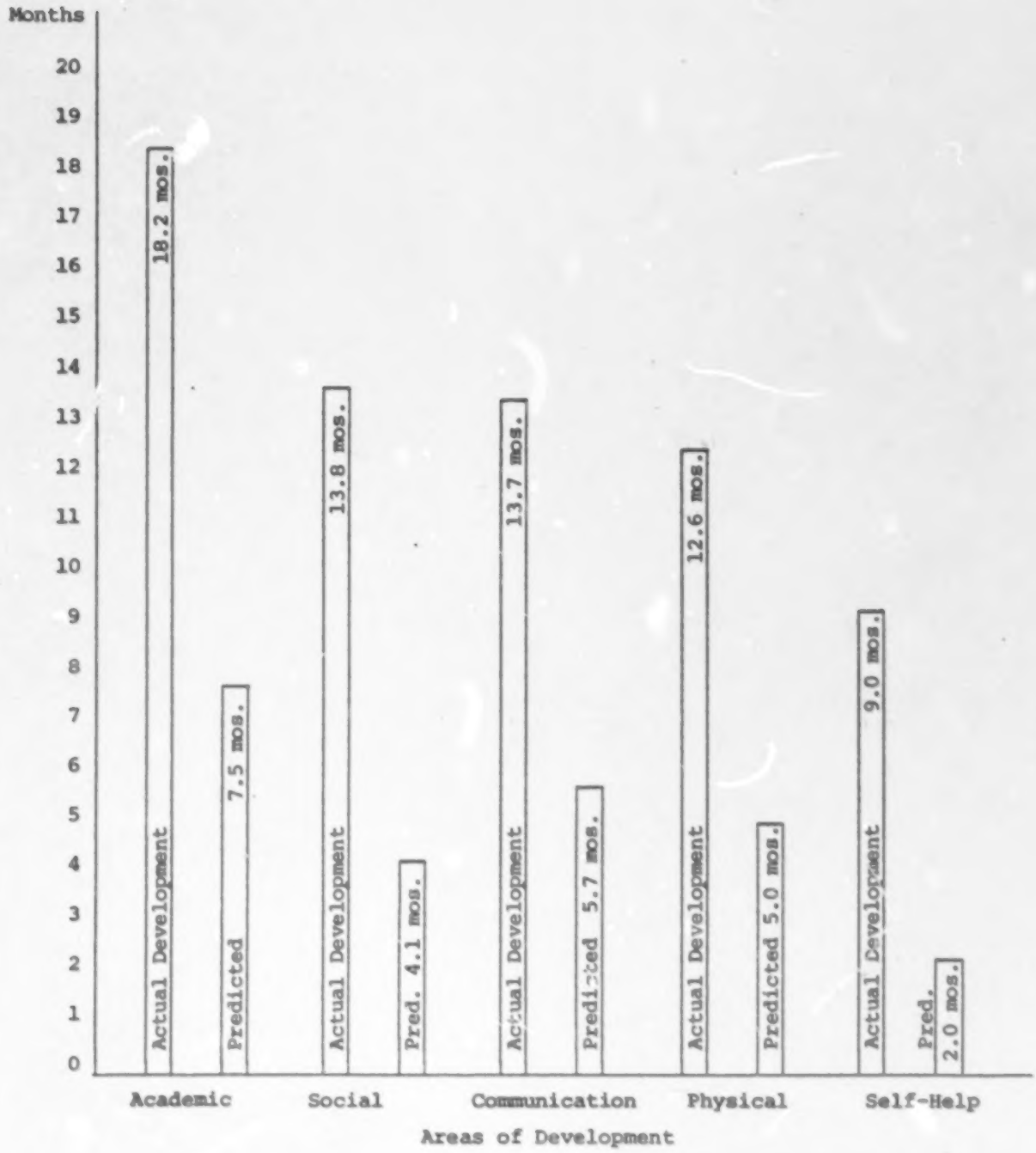

Figure 1-C

Actual and Predicted Development for Subjects
Receiving Classroom Files as Treatment

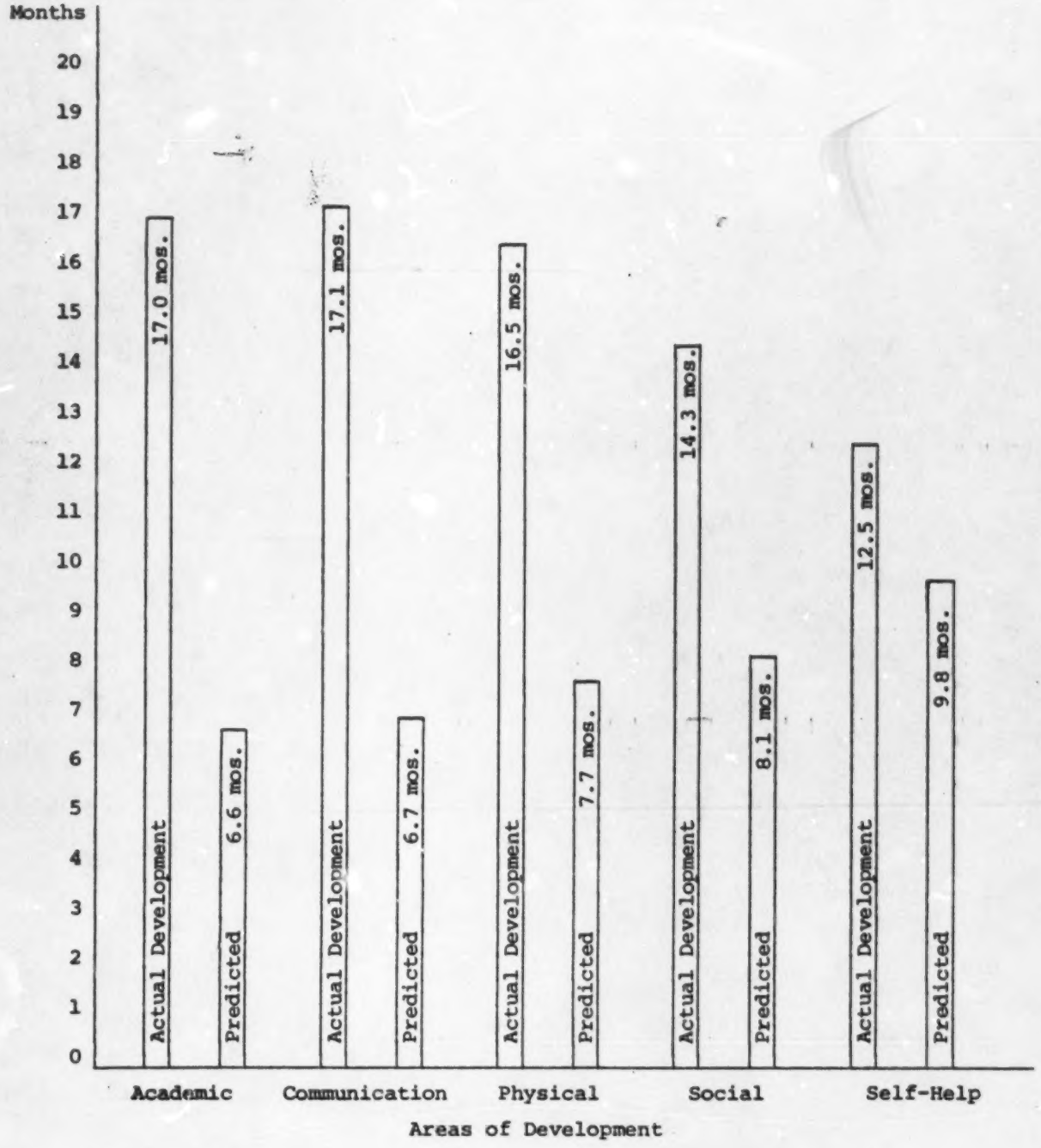

Figure 2-C

Actual and Predicted Development for Head Start Subjects Receiving Classroom Files as Treatment

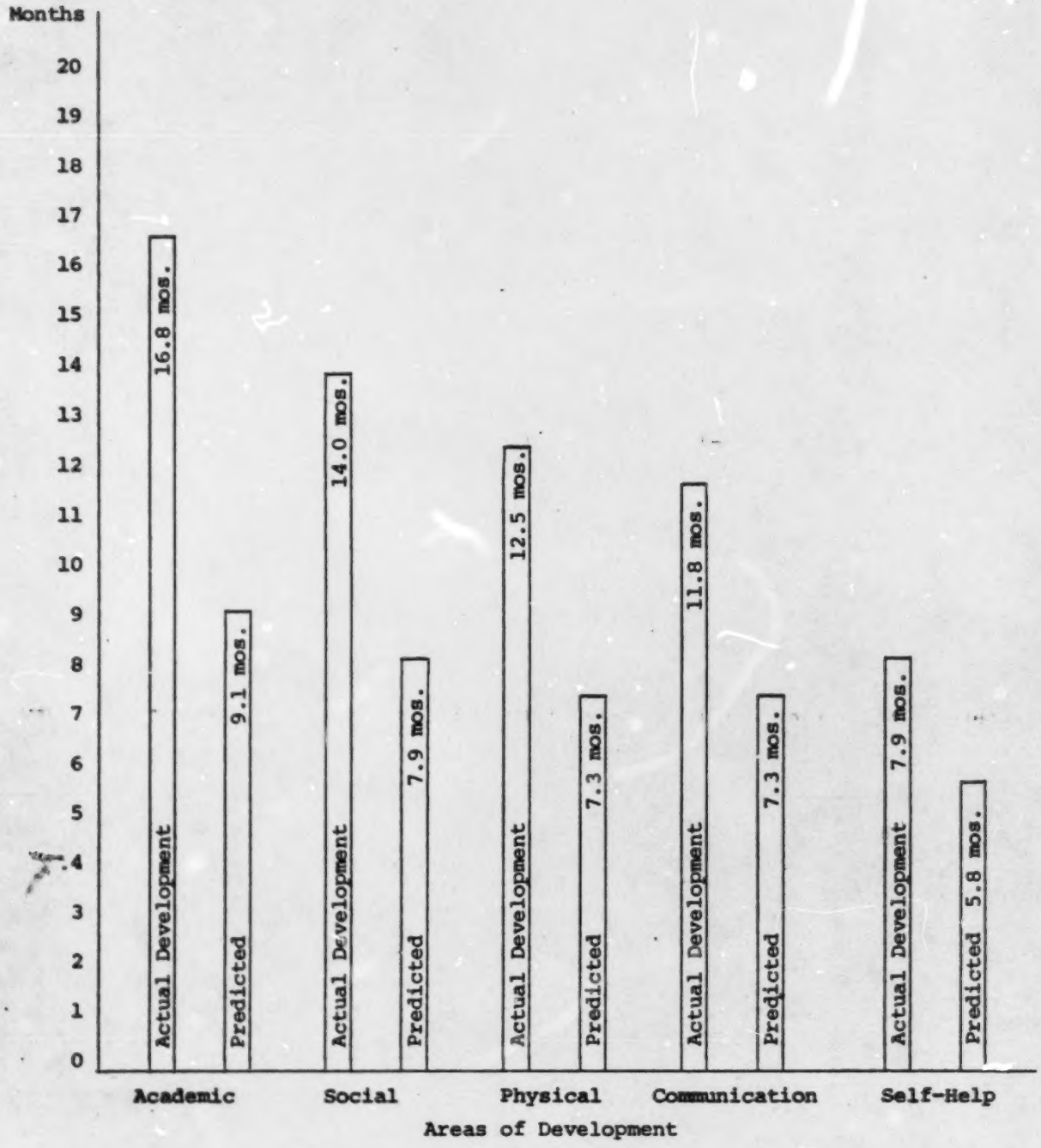

Figure 3-C

Actual and Predicted Development for Day Care Subjects Receiving Classroom Files as Treatment

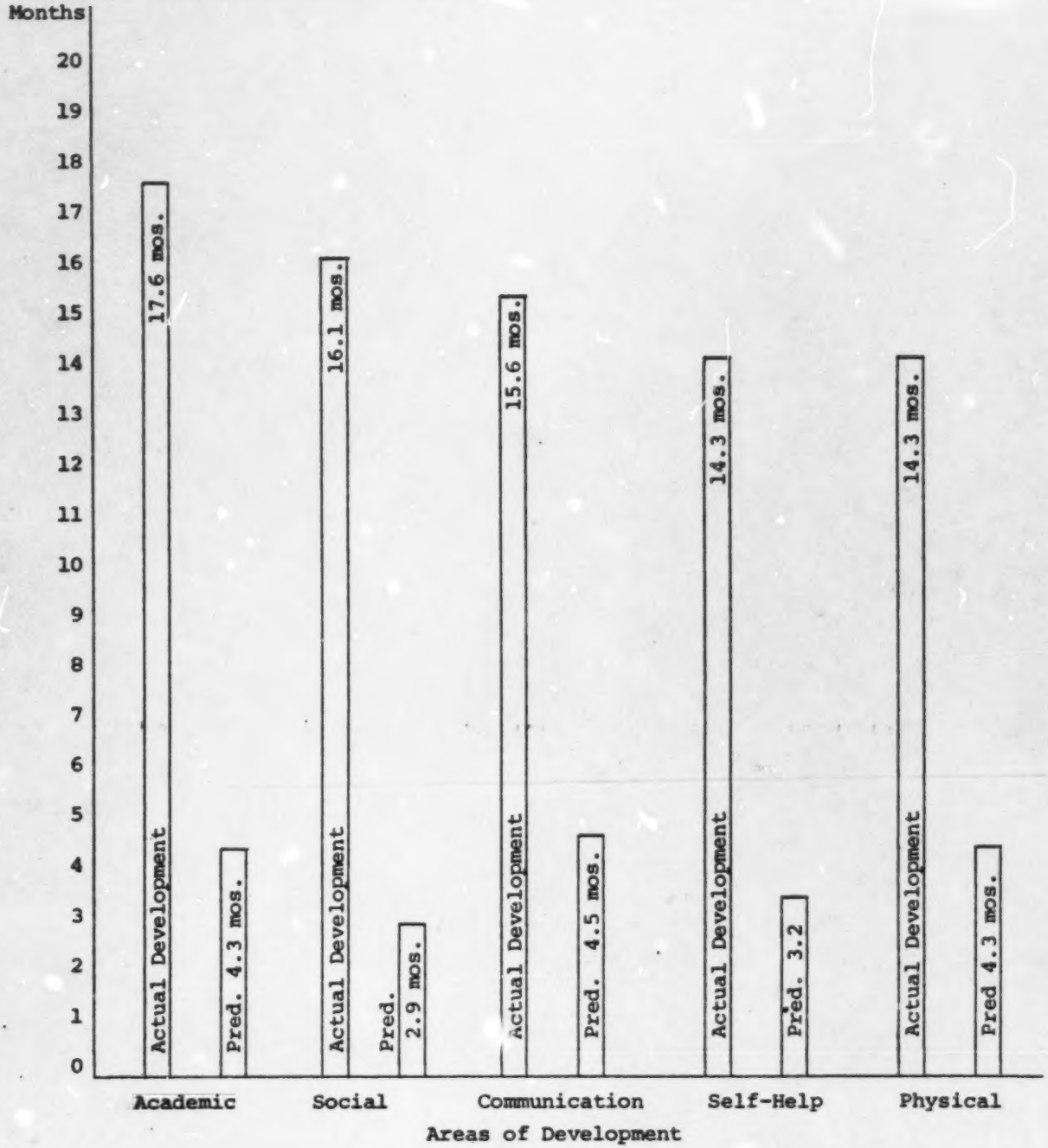

Figure 4-C

Actual and Predicted Development for Kindergarten Subjects Receiving Classroom Files as Treatment

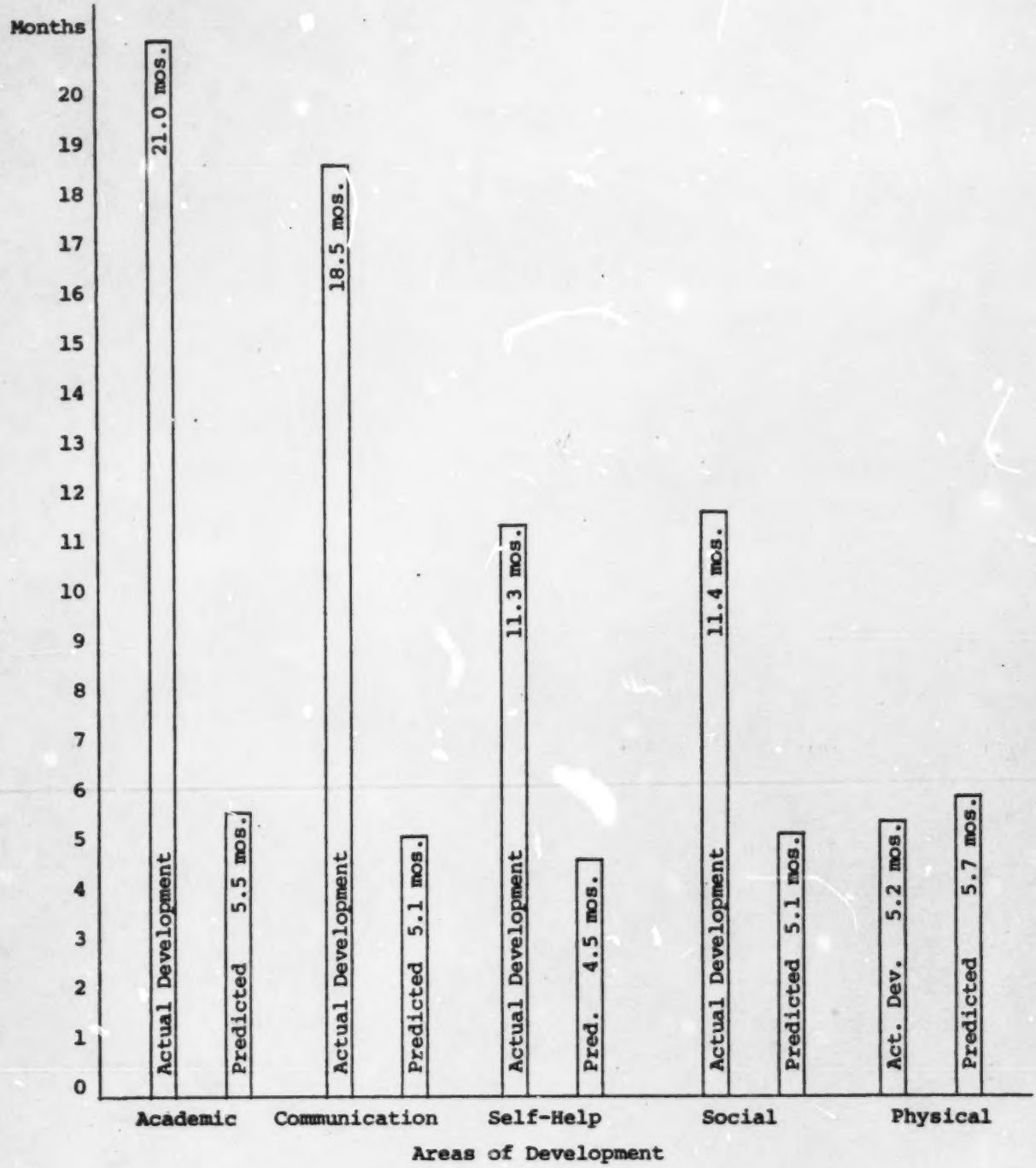

Figure 5-C

Actual and Predicted Development for Head Start Subjects Receiving Both Files as Treatment in a Classroom and Home Setting

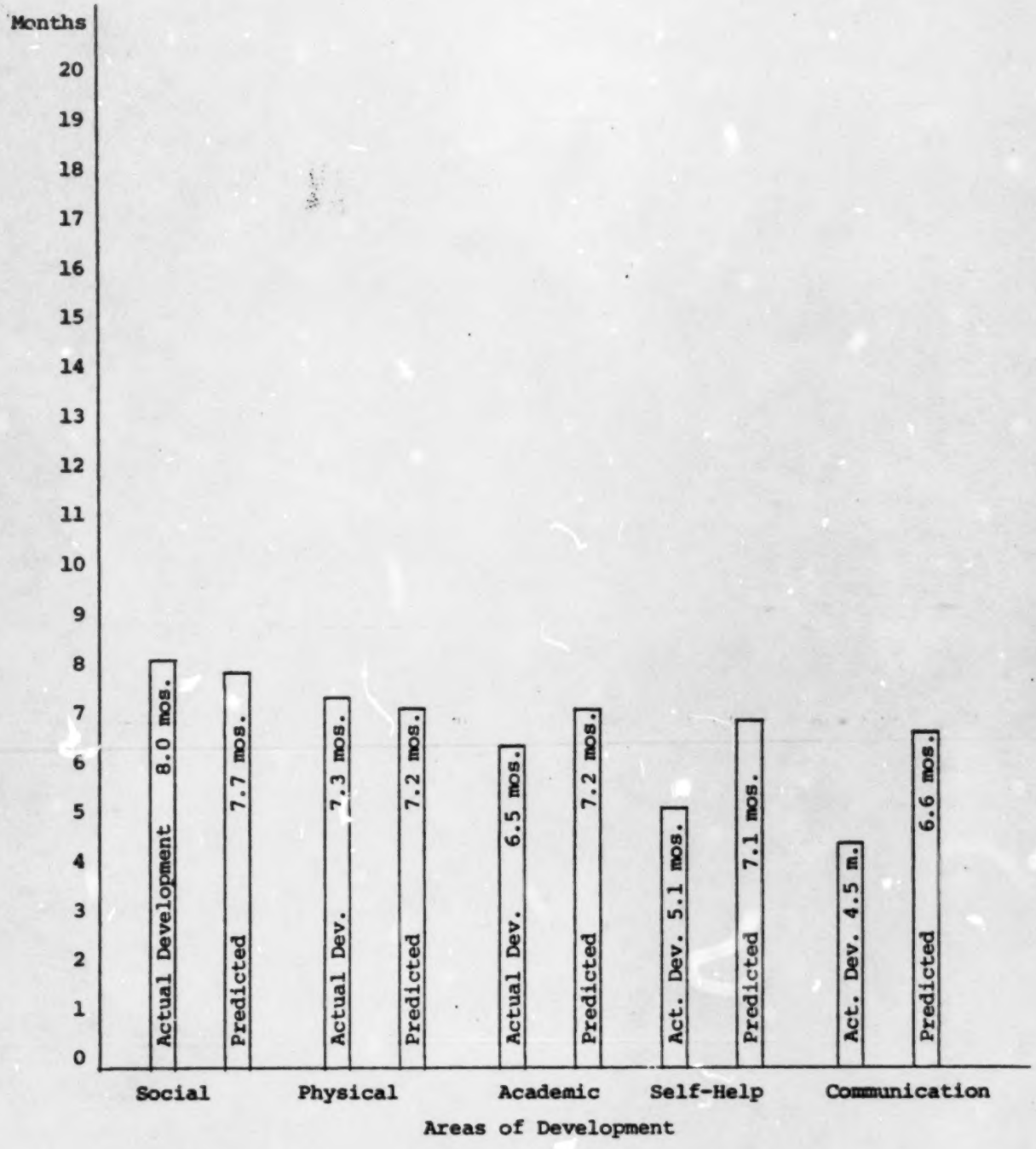

Figure 6-C

Actual and Predicted Development for Day Care Subjects
Receiving Both Files as Treatment
in a Classroom Setting

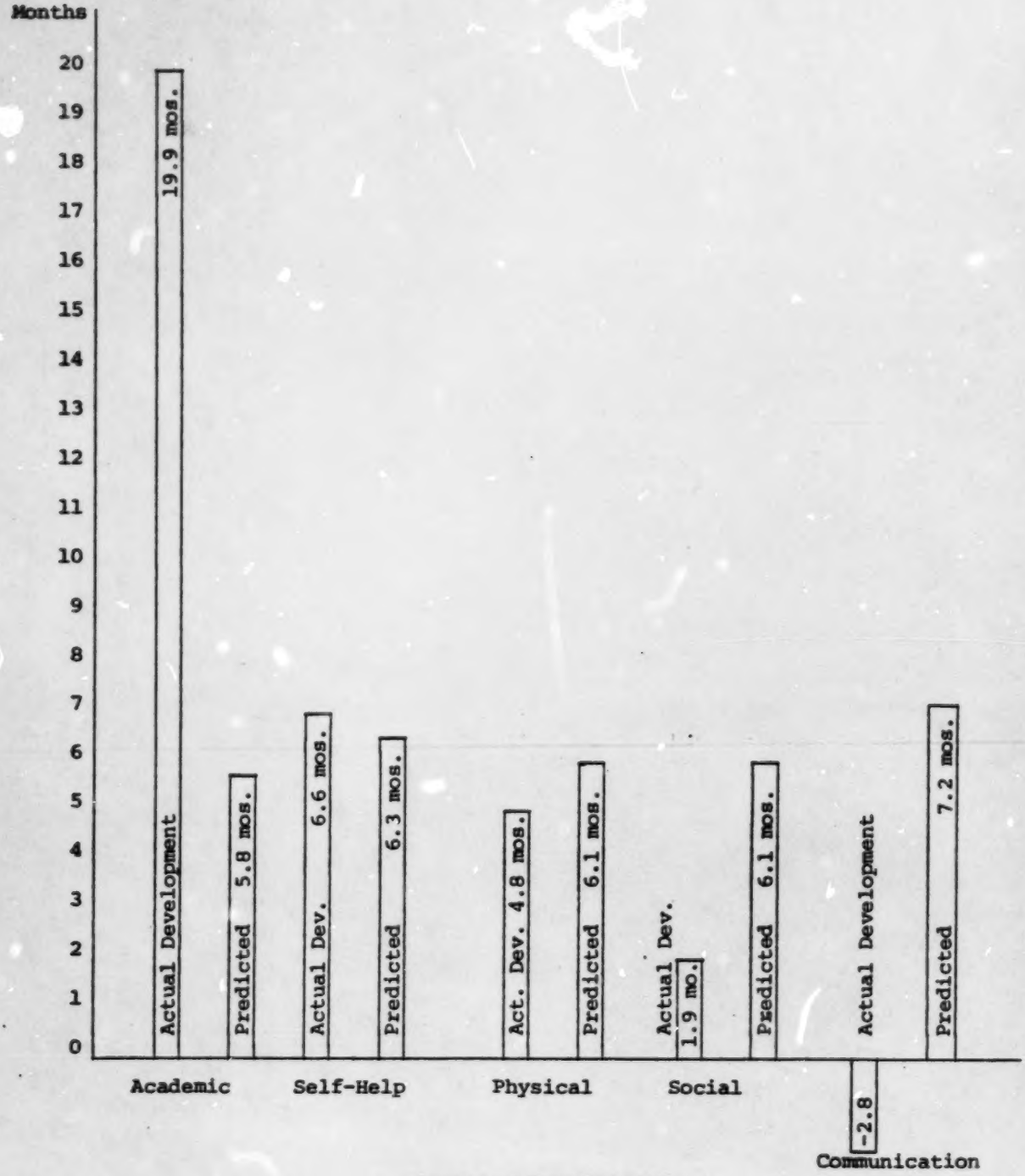

Figure 7-C

Actual and Predicted Development for Head Start, Home-Based Subjects Receiving Day Care and Home Files as Treatment

APPENDIX D

Utilization of Files Data

Table 1-D

Utilization of Classroom Files Data

Scale	Mean Difference	Average No. Activities	% Files Utilized
Academic	10.8	221.2	45.1
Communication	9.6	345.3	47.9
Social	7.6	171.9	50.6
Self-Help	7.6	44.3	45.9
Physical	7.0	90.4	43.1

Table 2-D

Utilization of Classroom Files Data for Head Start Teachers

Scale	Mean Difference	Average No. Activities	% Files Utilized
Academic	10.4	458.4	60.2
Communication	10.3	325.0	55.8
Physical	8.8	45.1	49.5
Social	6.2	624.8	58.5
Self-Help	4.6	162.0	45.5

Table 3-D

Utilization of Classroom Files Data
for Day Care Teachers

Scale	Mean Difference	Average No. Activities	% Files Utilized
Academic	7.7	92.5	44.7
Social	6.1	103.8	49.1
Physical	5.1	20.4	47.7
Communication	4.4	84.0	55.4
Self-Help	2.0	19.8	47.1

Table 4-D

Utilization of Classroom Files Data
for Kindergarten Teachers

Scale	Mean Difference	Average No. Activities	% Files Utilized
Academic	13.2	331.2	26.6
Social	13.1	707.1	34.4
Communication	11.1	247.4	35.3
Self-Help	11.1	196.0	28.8
Physical	9.1	101.6	37.2

Table 5-D

Utilization of Both Files Data for Head Start Teachers in Classroom and Home

Scale	Mean Difference	Average No. Activities	% Files Utilized
Academic	15.4	59.8	37.6
Communication	13.4	63.1	39.7
Self-Help	6.7	4.1	33.7
Social	6.2	22.1	33.7
Physical	-0.5	4.0	32.4

Table 6-D

Utilization of Both Files Data for Day Care Teachers in a Classroom

Scale	Mean Difference	Average No. Activities	% Files Utilized
Social	1.0	188.6	79.6
Physical	.1	32.6	56.3
Academic	- .7	253.0	96.0
Self-Help	- .9	48.3	56.3
Communication	-2.0	151.0	96.0

Table 7-D

Utilization of Day Care and Home Files Data for Head Start Teachers in a Home-Based Program

Scale	Mean Difference	Average No. Activities	% Files Utilized
Academic	14.0	272	100
Self-Help	.3	17	100
Physical	- 1.3	25	100
Social	- 5.8	174	100
Communication	-10.0	109	100

SPECIAL ED—its

A Publication for Sharing Ideas:
Using Aids to Early Learning with Special Children

Number 1 **Appalachia Educational Laboratory**

With the passage of Public Law 94-142, the Education for All Handicapped Act, more and more children with special needs are being enrolled in public schools. Most of the pre-school programs in AEL's field-test, including kindergartens, Head Start programs, day care centers and child development programs, have indicated that yes, they are serving one or more children with specific handicaps.

The Classroom Files and Home and Day Care Files have been in the field for one year. Teachers in programs across the country are using the Files in innovative ways. All of us at AEL are interested to hear how you are using the pre-school materials.

We've been asking teachers in our field test questions like these:

"What do you do with the special child in your class?"

"Do you use the AEL Files?" "Do you make any modifications?"

"Do you use special materials or special activities?"

Some of the answers we've been getting are included in this publication. If you find an idea here that seems to be worth trying, let us know how it works for you. If you have your own ideas - original or borrowed - share them with us. If we get enough ideas, we'll write another "Special Edits." Send us your ideas today. Write or call:

Beth Dankert
Appalachia Educational Laboratory
P. O. Box 1348
Charleston, WV 25325
(304) 344-8371

The true spirit of mainstreaming. . .

HELEN WRIGHT teaches at a Day Care Center in Petersburg, Pennsylvania. A four-year-old hard-of-hearing child attends the day care, and although his expressive language is limited to one-syllable words, Helen says he communicates with his body quite well. He participates in small group activities with the other children, and Helen feels that it is important not to treat him any differently than the rest of the children. She does individualize after a group activity to be sure he understood. It helps to simplify the vocabulary of directions.

Eyes are important for learning. What about the visually impaired child?

CAROL POSTOIN of the Lincoln Head Start program in Pocatello, Idaho, teaches a child who has cataracts. She outlines shapes in heavy black so the child can trace, copy, or color. To teach colors, she suggests using color lotto cards. (You can make your own set. Be sure the colors are very bright. Paste the large color squares onto a solid background.

What about children with less vision?

DEBBIE ANDERSON from Cedar Grove Head Start Center in Hillsboro, North Carolina, teaches a five-year-old boy who has no vision in one eye and can only distinguish shapes with the other. She builds letters and shapes (triangles, circles, squares) with playdough or uses materials like felt or sandpaper which are easy to feel. Sometimes, using real objects with this child helps to get across a concept such as "half" and "whole".

Do other children accept a blind child?

DEBBIE used a slide projector - out of focus - to help the children understand what it's like not to be able to see. She said the child is well accepted. One of the reasons may be her own attitude--she doesn't treat him differently. The AEL activities which relate to social development have especially helped this particular visually impaired child.

Learning to live with a problem - so that it's not one.

ESTHER STIDHAM is a teacher in the N.O.C.A.C. Head Start program in Defiance, Ohio. One of the children has a mild form of cerebral palsy. After three years in the program, the girl has shown a lot of progress. Most importantly, Esther says, she likes to do things on her own; she has learned to be independent.

What's an example?

At first, the child expected to be helped to go to the bathroom. The teachers showed her how to get support from a chair and push it down the hall in front of her. Then she walked (without the chair) by supporting herself along the wall. Now she walks independently to the toilet. Sure, she still falls or stumbles occasionally. But - she gets right up and goes on.

Another idea . . .

ESTHER had a good idea for snow-bound children, too. She sent copies of activities from the Files home. So the parents got into the teaching act when their children couldn't get to school.

Language is important for deaf children.

CHRIS OLSEN is a teacher of deaf and hard-of-hearing preschoolers in Pocatello, Idaho. She uses sign language in the classroom. Most of the day is spent in building language skills which hearing children usually learn just by listening to what is happening around them.

Chris uses the Files activities to help in this language development. Here are some of her suggestions:

- Don't use the poems, songs, and finger plays with deaf children--at least not very often. They can't hear the cadence or the rhyme of the words. It becomes a straight memory exercise for the children. And when you think about it, nursery rhymes use lots of words which are not common and which would be hard to understand--and the grammar is arranged to fit the rhyme.

  Little Miss Muffet
  Sat on a tuffet,
  Eating her curds and
  whey;

- Most of the activities in C-2, the Ability to Discriminate by Sound, are not appropriate for deaf children because the ability to hear is a prerequisite. However, hearing impaired children may be able to accomplish Activity C-2-5, "March to Loud and Soft Music," with Chris' suggestion. First, help the children learn the concept of the music being "off" and "on". Later, the child might begin to learn "loud" and "soft."

- In C-13-1, the "I Wish Game," change the activity to, "Pretend you are _____." Encourage the children to role play. "Wishing" is an abstract idea. Many deaf children don't understand abstractions.

- C-17-4, "Giving Directions to Follow for Large Muscle Development", should be adapted.

  1. The teacher should be the leader first, to demonstrate for the children. (Chris "signs" the directions, along with giving verbal cues.)

  2. Choose the most verbal child to be the first leader. The other children will begin to understand what "giving directions" means if they see it done.

  3. Give the "leader" three possible directions from which to choose. The children may have difficulty thinking of one without suggestions.

  4. Use the three-year-old variation of following a single direction at a time.

When shouldn't you use the Files? Some children are too young.

Two retarded children, who are developmentally about one-year-old, attend a Head Start program in Saxton, Pennsylvania. SHARON SCHREFFLER, educational director, does not recommend the Files as a curriculum for these children. She said they need more basic "infant" activities. The teachers there use the Memphis and Portage Project as guides for learning activities for children who are developmentally too young for Aids to Early Learning. Sharon says that the age variations in the Classroom Files are helpful in presenting activities to children who are less severely delayed or who are developmentally advanced.

Appalachia Educational Laboratory
Post Office Box 1348
Charleston
West Virginia 25325

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